BRITISH COLUMBIA

Ministry of Energy & Mines
Energy & Minerals Division
Geological Survey Branch

ASSESSMENT REPORT
TITLE PAGE AND SUMMARY

TITLE OF REPORT [type of survey(s)]: Keness Property: 2005 Bear Diamond Drill Program
TOTAL COST: $740,532

AUTHOR(S): Kay B.G.; Konst R.A.; Edmunds F.C.
SIGNATURE(S):

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S): MX-13-102
YEAR OF WORK: 2005

STATEMENT OF WORK - CASH PAYMENT EVENT NUMBER(S)/DATE(S): 4059739 4059742 Dec 19 2005

PROPERTY NAME:

CLAIM NAME(S) (on which work was done): Bear 1 403620, Bear 3 403622, 515686, 515693

COMMODITIES SOUGHT: Gold Copper

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN: 094E 094

MINING DIVISION: Omineca
NTS: 094D/15

LATITUDE 56 ° 57 ' 00 " LONGITUDE 126 ° 42 ' 00 " (at centre of work)

OWNER(S)

1) Northgate Minerals Corp
2)

MAILING ADDRESS

404-815 Horby St
Vancouver B.C. V6Z 2E6

OPERATOR(S) [who paid for the work]

1)
2)

MAILING ADDRESS

PROPERTY GEOLOGY KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude):

Jurassic Hazleton Group Toodoggone Formation
Conglomerates Tuffs Unconformity Porphyry

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS: 27675 27365

(OVER)

TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (IN METRIC UNITS)	ON WHICH CLAIMS	PROJECT COSTS APPORTIONED (incl. support)
GEOLOGICAL (scale, area)			
Ground, mapping			
Photo interpretation			
GEOPHYSICAL (line-kilometres)			
Ground			
Magnetic			
Electromagnetic			
Induced Polarization			
Radiometric			
Seismic			
Other			
Airborne			
GEOCHEMICAL (number of samples analysed for ...)			
Soil			
Silt			
Rock			
Other			
DRILLING (total metres; number of holes, size)			
Core	5785m 18 holes NQ	403620 403622 515686 515693	740,532
Non-core			
RELATED TECHNICAL			
Sampling/assaying			
Petrographic			
Mineralographic			
Metallurgic			
PROSPECTING (scale, area)			
PREPARATORY/PHYSICAL			
Line/grid (kilometres)			
Topographic/Photogrammetric (scale, area)			
Legal surveys (scale, area)			
Road, local access (kilometres)/trail			
Trench (metres)			
Underground dev. (metres)			
Other			
		TOTAL COST	740,532

ASSESSMENT REPORT – 2005 EXPLORATION PROGRAM

KEMESS PROPERTY:

BEAR DIAMOND DRILL PROGRAM

CLAIMS: 403620 (Bear 1), 403622 (Bear 3), 515686 and 515693

OMINECA MINING DIVISION
BRITISH COLUMBIA

CENTERED ON:

LATITUDE: 56^{o} 57' North
LONGITUDE: 126^{o} 42' West

BCGS 094D096, 094D097, 094E006, 094E007

- Owned and Operated By-

Northgate Minerals Corporation
Kemess Mines Ltd.
815 Hornby Street, Suite 404
Vancouver, British Columbia
V6Z 2E6, Canada

March 2006

B.G. Kay B.Sc. P.Geo.

R. Konst B.Sc.

F.C. Edmunds M.Sc. P.Geo.

1.0 EXECUTIVE SUMMARY

This report describes exploration work that was completed on the Bear claims at the Kemess Property beginning January 15th 2005. The property is located just north of the McConnell Ranges approximately 430 kilometres northwest of Prince George in the Toodoggone Mining camp.

The exploration work was separated into three programs; a winter program on low-lying swampy areas January 15 - February 18, a skid program May 6 - May 31, and a helicopter supported program June 1 - June 11. The combined programs comprise a total 5,785 metres of NQ diameter diamond drilling in 18 drill holes. A total of 2103 prepared samples and 82 quality control samples were submitted for analysis. Expenditures allowable for assessment credit total $740,532.

One hole, KB-05-12, was sited within the Kemess South Mining Lease (#354991) and therefore not applicable for assessment credit. Records of this hole have been included in this report for completeness but no costs claimed.

The goal of the Bear program was to examine the potential for porphyry style mineral deposits under post-mineral volcanic cover. Airborne geophysics conducted over the Bear claims in 2003 showed a large (500m diameter) magnetic anomaly east of the Kemess airstrip. Existing holes in this area were typically 100m or less in length and seldom penetrated the post-mineral cover rocks. Additional holes were spotted to follow-up 2004 ground geophysics. Prospective area was extended to the west and south-west by KB-05-17 which identified Hazelton rocks where Sustut sediments had been previously mapped. This conglomeratic Hazelton unit was trace south for some 5km.

No significant mineralization was intercepted in the program save for a 7.5m interval of epithermal adularia hosted vein mineralization in hole KB-05-12.

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2.0 INTRODUCTION

The Kemess Property is located in the mountains of north-central British Columbia, 430 kilometres northwest of Prince George, British Columbia at 57^{o} 02' north longitude and 126^{o} 47' west latitude. The property comprises four mining leases, and 75 claims which together cover nearly 35,000 hectares. The Kemess South deposit currently supplies mill-feed to a 52,000 tonnes per day mill. In 2001, Northgate announced the discovery of a significant deposit at Kemess North. The Kemess North Project is currently undergoing an environmental assessment and permitting process.

The Kemess Property is owned and operated by Kemess Mines Ltd., a 100% owned subsidiary of Northgate Minerals Corporation. Infrastructure consists of an office and maintenance building, a 400-person camp, a mill building, access and service roads and an airstrip. Most supplies are trucked into the property via all-season road access from Mackenzie, British Columbia, while power is available directly from BC Hydro over a 380 km power line.

Kemess occurs at the southern end of the Toodoggone Mining camp, which describes a collection of occurrences and deposits found in Mesozoic volcanic rocks of the eastern Stikine Arch. Large-scale structures are present in the area, with a major terrain boundary present just 25 kms east of the project area. The area is known for its Cu-Au porphyry deposits and low sulphidation epithermal Au-Ag vein deposits. Potential also exists for mesothermal vein deposits, skarn deposits, volcanic-associated massive sulphide deposits and red-bed Cu deposits.

The 2005 exploration season included four programs; the Kemess North Offset, Bear, NOR1 and Kemess East Exploration Drilling Programs and extended from January 15 – October 31, 2005. The Bear Drilling Program reported on here, centered on 56^{o} 57' north latitude and 126^{o} 42' longitude west, was an attempt to discover new deposits close to the Kemess mill. This area is under-explored due to post-mineral volcanic cover.

3.0 LOCATION AND ACCESS

The Kemess Property is located in the mountainous area east of the Spatsizi Plateau and west of the Swannell Ranges near Thutade Lake approximately 250 kilometres north of Smithers and 430 kilometres northwest of Prince George at 57^{o}02' north latitude and 126^{o}47' west longitude. The property, shown in Figure 1, spans the boundary between the 94E and 94D NTS sheets and lies in the Omineca Mining Division.

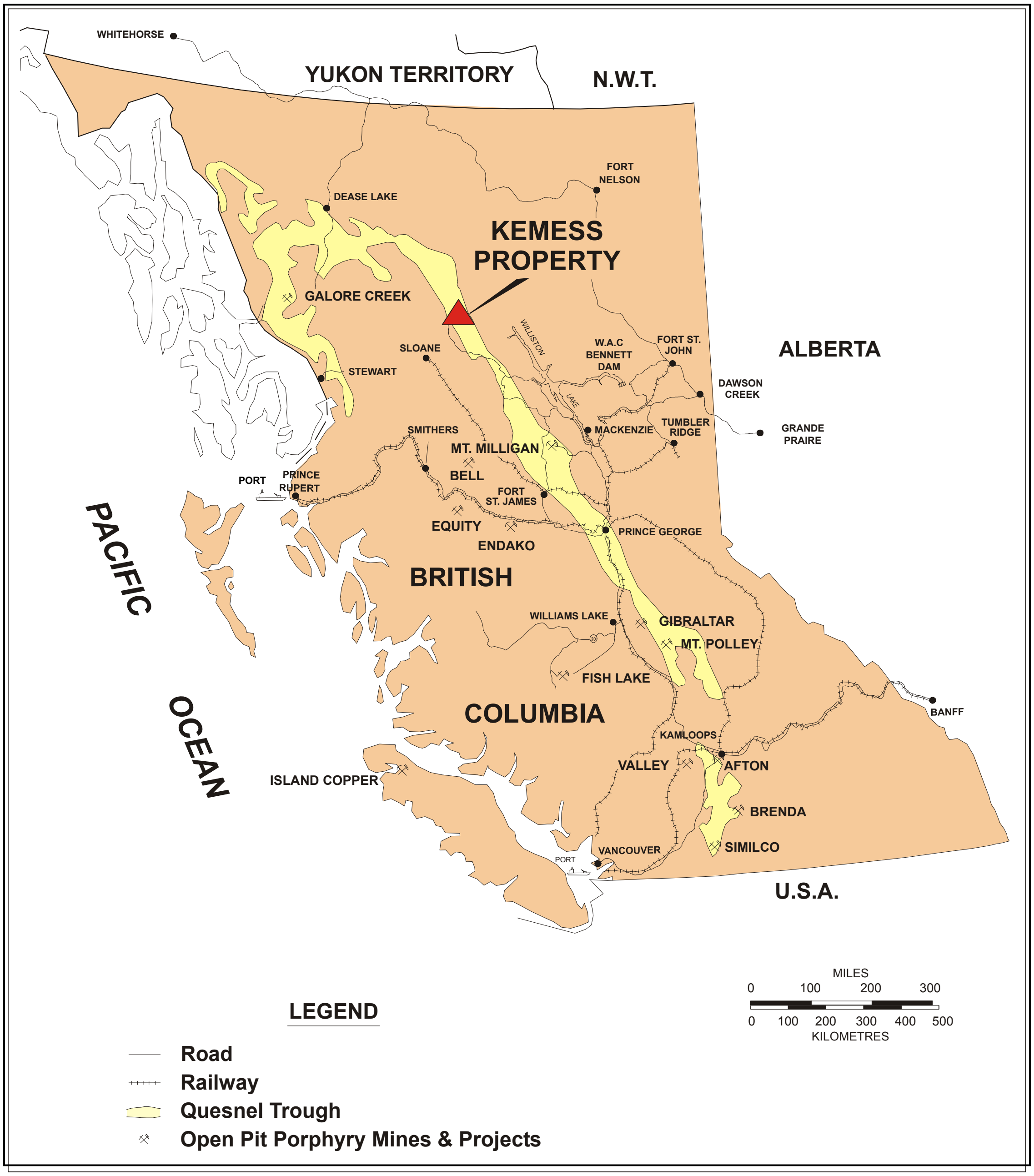

Figure 1 Kemess Property Location Map

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Access to the project is provided by both air and road, as there are regularly scheduled year-round flights from Vancouver, Smithers, and Prince George to Kemess. All season road access is available from the town of Mackenzie or Ft. St. James via the Omineca Resources Access road.

The area is characterized by broad, open, drift and moraine covered valleys, yielding to sub-alpine plateaus and rugged incised peaks and cirques. Elevations range from 1200m to 1800m, with the tree line occurring at 1500m. The Kemess area climate is generally moderate, although snow can occur during any month. Temperatures range from -35^{oC} to 30^{oC} and average annual precipitation amounts to 890mm. In 2005 snow did not leave the higher elevations until late June.

The Bear program drilling was conducted on a broad plateau south of the Kemess Mine characterized by scrub bush, small trees and swamps. Access in winter over frozen ground near roads and under the power line was completed in January. Later holes used short cat trails off existing roads. Holes KB-05-15 through 17 were far from any infrastructure and not reachable in winter months. Access was by helicopter only.

4.0 CLAIM DATA

The Kemess property is comprised of four mining leases (354991, 410732, 410741, 524240) and 75 surrounding and contiguous mineral claims which together cover nearly 35,000 hectares. All property mineral tenures are held by Kemess Mines Ltd. The claims fall under the jurisdiction of the Omineca Mining Division of British Columbia located on NTS map sheets 94D15E&W or BCGS 94E006, 007,016 and 017. Several areas within the property were abandoned and re-staked during 2004.

Table 1 outlines the relevant claim information for the property as listed with Ministry of Sustainable Resource Management BC as of January 2, 2005. Figure 2 shows a summary map of the claims relative to the local infrastructure and Figure 3 details the individual claims comprising the Kemess Property. Work performed for the Bear program was conducted on Tenure #'s 403620 (Bear 1), 403622 (Bear 3), 515686 and 515693.

It should be noted that the Nor1 option with D.L. Cooke only covers the initial 500ha legacy claim. The appended 169ha commensurate with cell conversion is not subject to the option agreement, and is owned 100% by Kemess Mines Ltd.

Kemess Mines Ltd. (Client No. 142594)

Kemess Property Summary

Revised: January 2, 2006

A. Mining Leases

	Tenure No.	Name	Owner	Map No.	Good To Date	Area (ha.)
1	354991	L.7198, L.7199, L.7200, L.7201, L.7204, L.7207	142594 (100%)	094E007	2006/SEP/15	862.33
1	410732	L.7327, L.7328	142594 (100%)	094E007	2006/SEP/29	950.00
1	410741	L.7329	142594 (100%)	094E007	2006/SEP/29	106.00
1	524240	L.7342	142594 (100%)	094E	2006/DEC/22	1,565.00
4						**3,483.33**

B. Mineral Claims

	Tenure No.	Claim Name	Owner	Map No.	Good To Date	Area (ha.)
1	241014	SEM #1	142594 (100%)	094E007	2015/DEC/14	400.00
1	241959	NEK 3	142594 (100%)	094E007	2015/DEC/14	500.00
1	241960	NEW KEMESS 3	142594 (100%)	094E007	2015/DEC/14	375.00
1	242573	DU 2	142594 (100%)	094E007	2015/DEC/14	500.00
1	242574	NEK 4	142594 (100%)	094E007	2015/DEC/14	350.00
1	243063	CAN 1	142594 (100%)	094E007	2015/DEC/14	500.00
1	243064	DUNC 1	142594 (100%)	094E007	2015/DEC/14	100.00
1	243065	DUNC 2	142594 (100%)	094E007	2015/DEC/14	100.00
1	243066	DUNC 3	142594 (100%)	094E007	2015/DEC/14	150.00
1	243067	CREEK	142594 (100%)	094E007	2015/DEC/14	300.00
1	243356	LA 3	142594 (100%)	094E006	2015/DEC/14	25.00
1	243357	LA 4	142594 (100%)	094E006	2015/DEC/14	25.00
1	243358	LA 5	142594 (100%)	094E006	2015/DEC/14	25.00
1	243359	LA 6	142594 (100%)	094E006	2015/DEC/14	25.00
1	243362	LAKE 1	142594 (100%)	094E006	2015/DEC/14	500.00
1	243363	LAKE 2	142594 (100%)	094E006	2015/DEC/14	500.00
1	243440	ALISON 1	142594 (100%)	094E007	2015/DEC/14	500.00
1	304706	GOZ 1	142594 (100%)	094E007	2015/DEC/14	25.00
1	304707	GOZ 2	142594 (100%)	094E007	2015/DEC/14	25.00
1	310076	DUN 1	142594 (100%)	094E007	2015/DEC/14	225.00
1	310077	DUN 2	142594 (100%)	094E007	2015/DEC/14	225.00
1	310078	DUN 3	142594 (100%)	094E007	2015/DEC/14	225.00
1	343143	ATTY 1	142594 (100%)	094E006	2015/DEC/14	500.00
1	343144	ATTY 2	142594 (100%)	094E006	2015/DEC/14	500.00
1	343145	ATTY 3	142594 (100%)	094E006	2015/DEC/14	500.00
1	343146	ATTY 4	142594 (100%)	094E006	2015/DEC/14	500.00
1	343147	ATTY 5	142594 (100%)	094E006	2015/DEC/14	375.00
1	343148	ATTY 6	142594 (100%)	094E006	2015/DEC/14	375.00
1	343149	ATTY 7	142594 (100%)	094E017	2015/DEC/14	500.00
1	343150	ATTY 8	142594 (100%)	094E007	2015/DEC/14	500.00
1	355408	MILL CREEK 4	142594 (100%)	094E007	2015/DEC/14	25.00
1	401957	UN 1	142594 (100%)	094E007	2015/DEC/14	50.00
1	403620	BEAR 1	142594 (100%)	094D097	2015/DEC/14	500.00
1	403621	BEAR 2	142594 (100%)	094D097	2015/DEC/14	500.00
1	403622	BEAR 3	142594 (100%)	094D097	2015/DEC/14	500.00

1	403623	BEAR 4	142594 (100%)	094D097	2015/DEC/14	500.00
1	403624	BEAR 9	142594 (100%)	094D097	2015/DEC/14	500.00
1	403625	BEAR 10	142594 (100%)	094D097	2015/DEC/14	500.00
1	403626	BEAR 13	142594 (100%)	094D097	2015/DEC/14	250.00
1	403627	BEAR 14	142594 (100%)	094D097	2015/DEC/14	250.00
1	403628	BEAR 5	142594 (100%)	094D097	2015/DEC/14	500.00
1	403629	BEAR 6	142594 (100%)	094D097	2015/DEC/14	500.00
1	403630	BEAR 7	142594 (100%)	094D097	2015/DEC/14	500.00
1	403631	BEAR 8	142594 (100%)	094D097	2015/DEC/14	500.00
1	403632	BEAR 11	142594 (100%)	094D097	2015/DEC/14	500.00
1	403633	BEAR 12	142594 (100%)	094D097	2015/DEC/14	500.00
1	403634	BEAR 15	142594 (100%)	094D097	2015/DEC/14	375.00
1	403635	BEAR 16	142594 (100%)	094D097	2015/DEC/14	375.00
1	405478	MINI AT	142594 (100%)	094E007	2015/DEC/14	125.00
1	405479	GAUNTLET	142594 (100%)	094E007	2015/DEC/14	100.00
1	405949	LAT 1	142594 (100%)	094E007	2015/DEC/14	25.00
1	413646	LALA 1	142594 (100%)	094E006	2015/DEC/14	25.00
1	413647	LALA 2	142594 (100%)	094E006	2015/DEC/14	25.00
1	413648	LALA 3	142594 (100%)	094E006	2015/DEC/14	25.00
1	413649	LALA 4	142594 (100%)	094E006	2015/DEC/14	25.00
1	414229	DUNC 4	142594 (100%)	094E007	2015/DEC/14	25.00
1	414230	DUNC 5	142594 (100%)	094E007	2015/DEC/14	25.00
1	414231	UN 2	142594 (100%)	094E007	2015/DEC/14	25.00
1	414232	UN 3	142594 (100%)	094E007	2015/DEC/14	25.00
1	506817	TLK 1	142594 (100%)	094D	2015/FEB/11	423.35
1	506822	TLK 2	142594 (100%)	094D	2015/FEB/11	423.24
1	506824	TLK 3	142594 (100%)	094D	2015/FEB/11	387.72
1	506825	TLK 4	142594 (100%)	094E	2015/FEB/11	281.83
1	515677		142594 (100%)	094E	2015/DEC/14	1,108.04
1	515678		142594 (100%)	094E	2015/DEC/14	1,443.31
1	515686		142594 (100%)	094D	2015/DEC/14	1,427.86
1	515693		142594 (100%)	094D	2015/DEC/14	1,534.10
1	515694		142594 (100%)	094E	2015/DEC/14	1,353.16
1	516786		142594 (100%)	094E	2015/DEC/14	1,391.64
1	516814		142594 (100%)	094D	2015/DEC/14	863.91
1	516817		142594 (100%)	094D	2015/DEC/14	440.56
1	516848		142594 (100%)	094E	2015/DEC/14	105.66
1	516854		142594 (100%)	094E	2015/DEC/14	1,197.16
1	516860		142594 (100%)	094D	2015/DEC/14	1,075.38
74						**30,581.91**

C. Property held under Option Agreement with D. L. Cooke

Units	Tenure No.	Claim Name	Owner	Map No.	Good To Date	Area (ha.)
1	515683		142594 (100%)	094E	2016/DEC/11	669.34

Table 1 Kemess Mines Ltd. List of Claims and Mining Leases

Good To Date assumes acceptance of this report

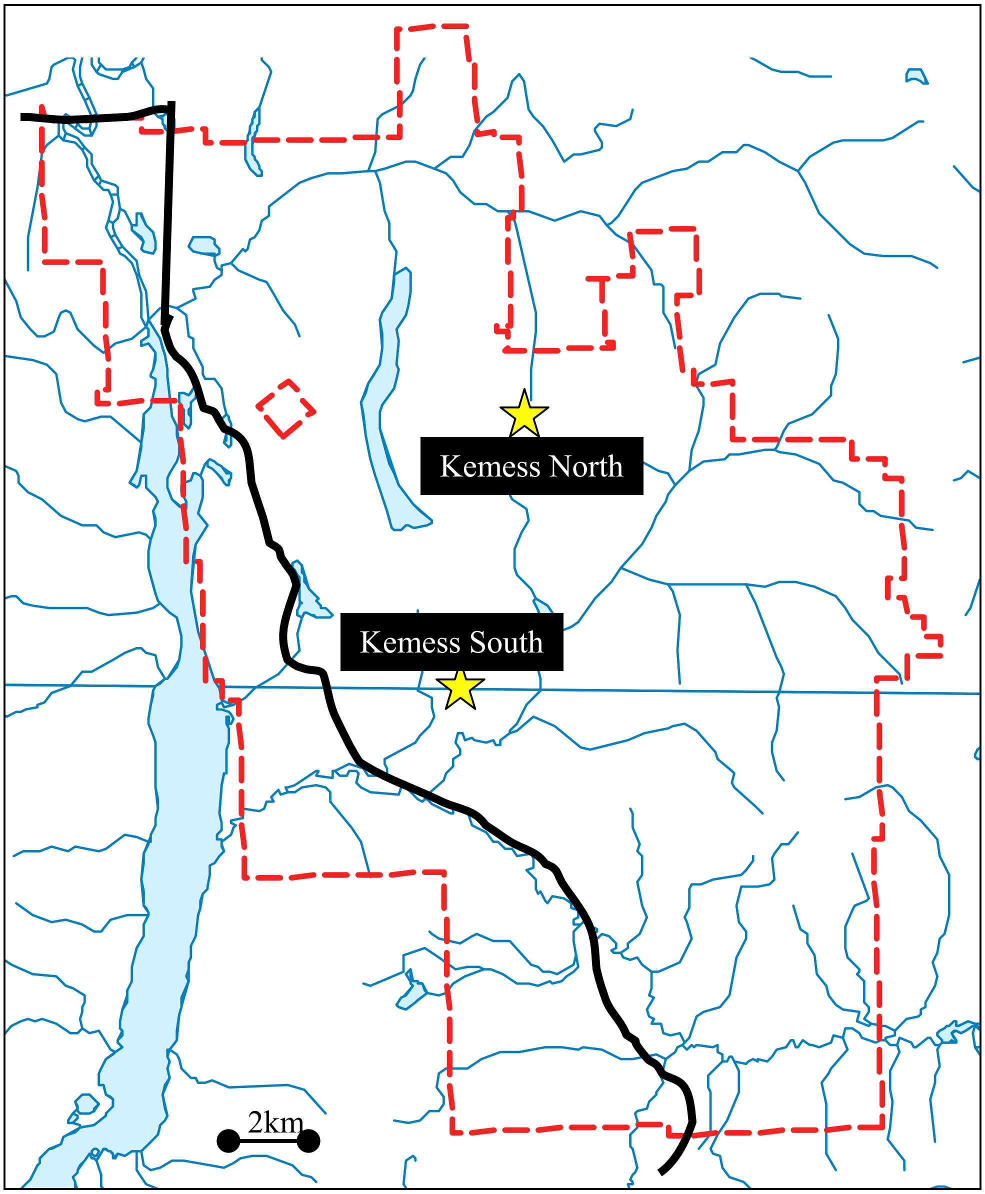

Figure 2 General Claims outline with Omineca Resource Access road and deposits.

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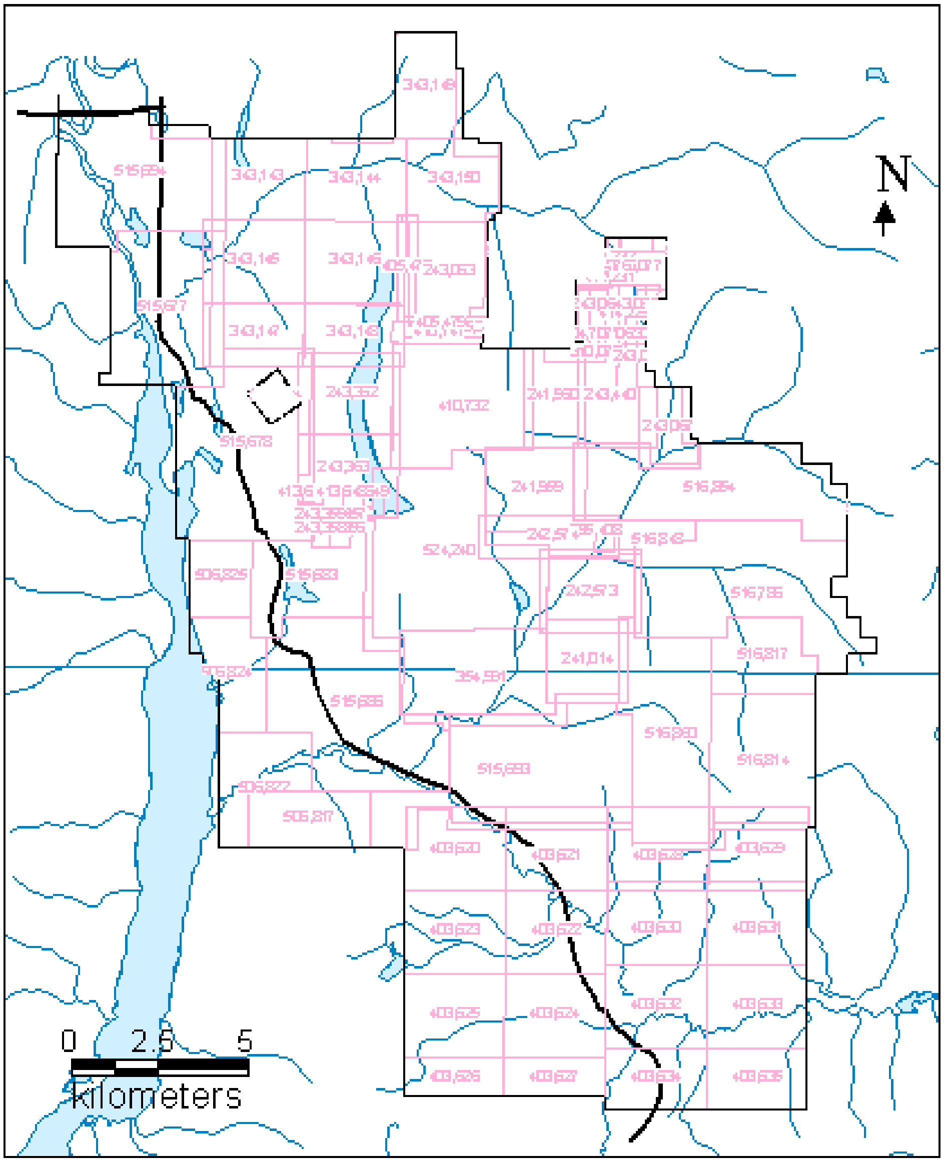

Figure 3 Detailed Kemess Claim Map (as of January 2 2006).

5.0 DISTRICT EXPLORATION AND MINING HISTORY

The earliest reports of exploration activity in the area date back to the discovery of placer gold at the mouth of McConnell Creek in 1889. Several years later there was a brief staking rush in 1907 and prospecting remained active in the area through the early 1920’s resulting in a placer discovery at McClair Creek.

Cominco Ltd. was active in the area in the 1930's exploring for base metals. During this period Emile Bronlund discovered and staked several skarn showings; the Cairn showing is a nearby occurrence from this era that is located on Duncan Ridge, 4 kms west of Kemess North.

In 1966 Kennecott focused on the area searching for Cu-porphyry systems using stream geochemical techniques and prospecting; this work resulted in claim staking and field work on several prospects including Kemess North, Pine, Fin, Chapelle (aka Baker), Shasta and Lawyers. The latter three deposits are gold-silver epithermal vein systems that eventually produced during the early 1980's.

Exploration on the Bear project area follows that of Kemess South, as summarized in Table 2.

Table 2. Kemess Bear Work History

Period	Company	Work Completed
1966 to 1971	Kennco Exploration Ltd. (Western)	Regional stream and soil geochemistry.
1983-1984	Pacific Ridge Resources Anaconda Canada	Diamond Drilling to test Au-Cu-Mo soils anomaly
1988	St. Phillips Resources	IP survey, geochem, RC Drilling
1990-1993	El Condor Resources St Philips Resources	Defined Kemess South Deposit 26,314m in 156 holes.
1991-1992	Rio Algom Exploration	Drilled on Bear claims area and west of Kemess South
1994	El Condor Resources	Infill Diamond Drilling, Aquired Rio Algom claims.
1996	Royal Oak Mines	Due dilligence drilling in Kemess South
1998	Royal Oak Mines	Kemess South Mine Commissioned
2004-2005	Northgate Minerals	Line Cutting IP Geochem, 5785m Diamond Drilling

Hole KB-05-08 and 09 followed up Rio Algom's hole 92-29, which returned a 10m interval of anomalous gold mineralization. El Condor completed a few short holes on the Bear Claims in 1993, but with no significant results reported.

In 2003 Fugro Airborne Surveys carried out a regional airborne multi-parameter survey over the Toodoggone region, under a funding agreement with the Geological Survey of Canada, BC Geological Survey and local exploration companies including Northgate Minerals. The results of this survey noted the potential for the Bear area to conceal buried deposits.

6.0 REGIONAL GEOLOGY

Mesozoic arc-related volcanic rocks that comprise the eastern margin of the Intermontane Belt underlie the district over an area measuring 100 by 40 kms. The oldest rocks in the belt are Permian Asitka Group, which are disconformably overlain by upper Triassic Takla Group, which are in turn unconformably overlain by lower-middle Jurassic Hazelton Group; overlapping all these assemblages to the west are upper Cretaceous Sustut Group sediments. The lithologic units comprising the stratigraphic succession are described in Table 3 below.

Table 3. Regional Stratigraphy (Cope 1992)

Age	Lithostratigraphic Unit	Description
Cretaceous	Sustut Group	Sustut rocks grade from Brothers Peak Formation conglomerate, sandstone, mudstone with minor tuffaceous units down to the basal Tango Creek Formation polymictic conglomerate, sandstone, mudstone with minor lignite seams.
L-M Jurassic	Hazelton Group	Uppermost unit, Smithers Formation is dominated by greywacke, lithic sandstone, siltstone, tuffaceous shale, volcanic breccia, conglomerate and limestone. Below lies the Nilkitkwa Formation, which is mainly shale, greywacke, andesitic-rhyolitic tuff with minor limestone. In the Kemess area the quartz phyric volcaniclastic rocks of the Toodoggone Formation are believed to be correlative to the Nilkitkwa. The basal assemblage, Telkwa Formation comprises basaltic to rhyolitic pyroclastic and flow rocks.
U. Triassic	Takla Group	Highest units are Moosevale Formation augite porphyry, breccia, sandstone and mudstone. Central assemblage is Savage Mtn. Formation comprised of flows and pyroclastic augite porphyritic volcanic rocks. Base of the exposed sequence is Dewar Formation argillite, limestone and siltstone.
Mid Pennsylvanian - Permian	Asitka Group	Uppermost units are dominated by limestone and tuff, which give way to a middle assemblage of basaltic flows and rhyolite. The lowermost units are basalt, argillite,chert and limestone.

Intrusive rocks are prevalent in the area and have been categorized as late Triassic Alaskan-type ultramafics such as pyroxene diorite, hornblende gabbro and pyroxenite. Economically more significant are the early Jurassic intrusives of the Black Lake suite, which are granodiorite, hornblende diorite, pyroxene quartz-diorite, quartz-monzonite and quartz monzodiorite. Age dates of important plutonic masses are shown in Table 4.

Table 4. Pluton Age Dates (Diakow 2001- 2004)

UTM (E)	UTM (N)	Pluton	U-Pb (zircon)	Notes
639009	6327545	Atty	205.1+/-0.7(z)	Sample from Northgate; pluton adjacent to Cu-Au mineralization on Atty property; intrusion probable sinistral offset of ca 194.5 granodiorite (96LDi25.1)
		Sovereign	202.7+1.9/-1.6(z)	Porphyritic quartz monzonite (Reference Mortensen et.al., 1995; CIM Special Vol. 46, pg154-156.)
		Maple Leaf	199.6 +/- 0.6(z)	Hosts The Kemess South Cu-Au Deposit
		Kemess North Monzonite	202 +/-?(z)	Hosts The Kemess North Cu-Au Deposit*
636408	6326349	Kemess North Syenite	198.3+/-0.8(z)	Corresponds with Northgate DDH KN02-03, 508-514m; post-mineral dike cutting porphyry Cu-Au mineralization
		Duncan Lake	197.3 +1.7/-0.9(z)	
634445	6321726	Kemess Centre	196.3+1.3/-2.9(z)	Sample from drill core DDH KC03-01 346 to 352m
631152	6325806	Cairn	190.3+0.6/-1.8(z)	Sample from Northgate; pluton on Duncan Ridge, spatially associated with Cu-Magnetite skarn

The map shown in Figure 4 from Massey et. al. 2003 shows the district geology, major intrusive masses, and deposits. **unpublished*

7.0 STRUCTURAL SETTING

For the most part the volcanic Mesozoic assemblages are upright shallowly dipping flat-lying sequences crosscut by high angle north to northwest trending faults. Significant structures are the Finlay-Ingenika and Moosevale fault systems, which bound the eastern margin of the belt. These structures are dextral strike-slip features that are related to the terrain bounding faults between the Intermontane and Omineca belts.

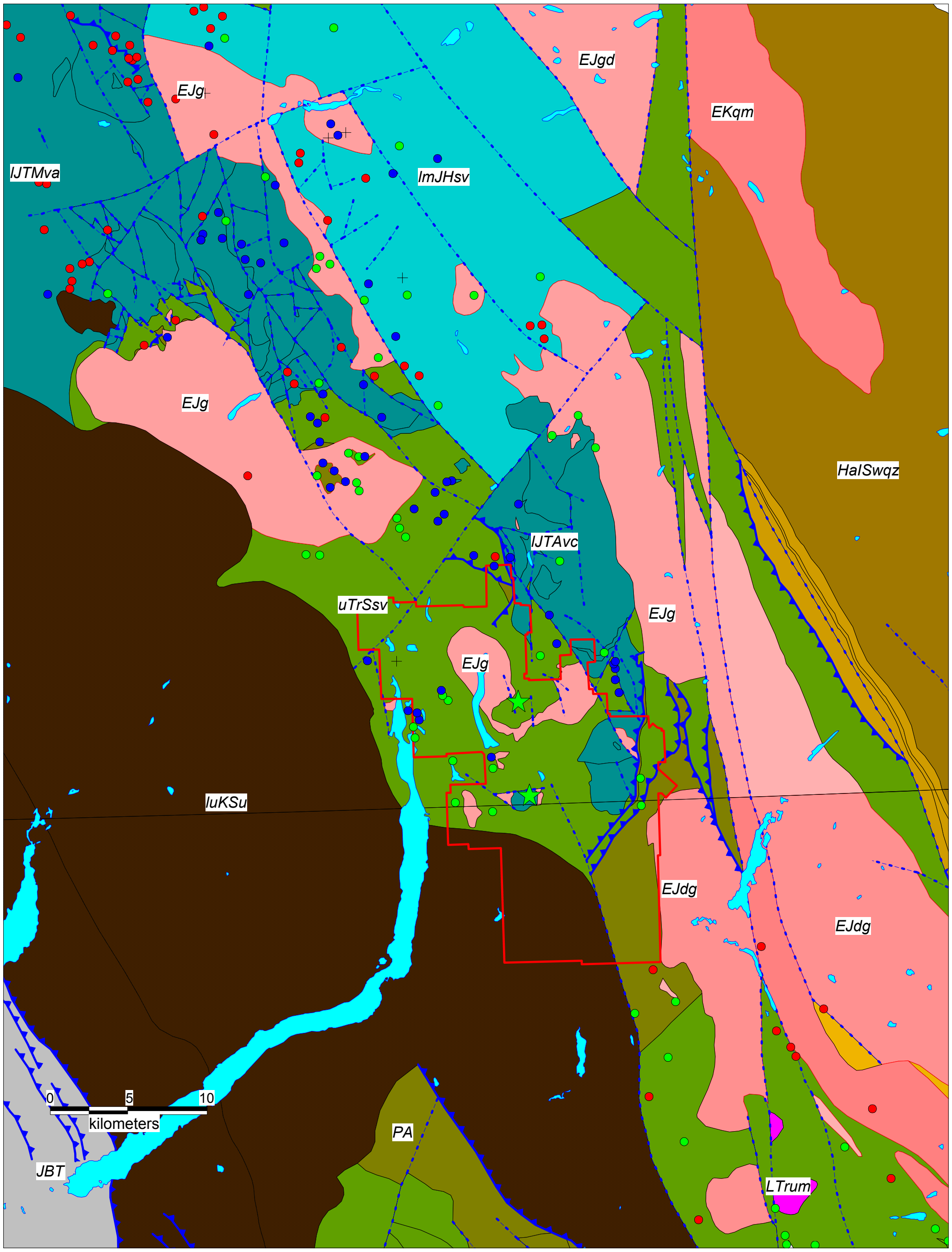

Figure 4 Regional Geology (after Massey et.al. 2003).

Minfile Occurrences plotted by colour showing principal commodities as follows: gold – red, silver – blue, and copper – green. Geologic units as follows: PA – Late Pennsylvanian -Permian Asitka Group, LTum – Late Triassic Ultra mafic intrusions, uTrSsv – Upper Triassic Takla Group, lJT – Lower Jurassic Hazleton Group, luKSu – Upper Cretaceous Sustut Group, EJ – Early Jurassic Black Lake Intrusives. North to top of page

Local to Kemess are the Duncan and Saunders Faults, which are north-northwest normal block fault structures. Thrust faulting is present in the district and is interpreted as Eocene or younger; displacement believed to be towards the northeast and effects rocks from the Takla up to Sustut sediments.

The district represents the results of three superimposed volcanic arc building stages that began in the upper Paleozoic. Marine volcanic and sedimentary successions dominated until the lower-middle Jurassic, when continental, quartz-normative volcanism began with the deposition of the Hazelton Group-Toodoggone Formation sequences. The plutonic rocks of the Black Lake suite are coeval with the Toodoggone sequence and are likely co-magmatic. Block faulting has juxtaposed and exposed panels of varying depth from the magmatic and volcanic systems. The structures and intrusives likely had a strong influence on the eventual positioning of volcanic centers.

8.0 PROPERTY GEOLOGY

8.1 INTRODUCTION

The Bear property is underlain by upper Triassic (Takla Group) andesitic to basaltic volcanics, which are unconformably overlain by lower Jurassic (Toodoggone Formation) dacitic fragmental volcanics. Stocks, dykes and possible sills of quartz monzonite/quartz diorite composition have intruded the Takla succession and are also lower Jurassic in age. Structurally the area is transected by steeply dipping north to northwest trending normal faults. Significant faulting has occurred prior to Toodoggone deposition as represented by facies changes within the basal sequence. A local coarse conglomerate occupies the lowest portions while finer, more angular epiclastic deposits mark the unconformity in higher blocks. Hole KB-05-04 cored almost 400 meters of this conglomerate before the hole was terminated.

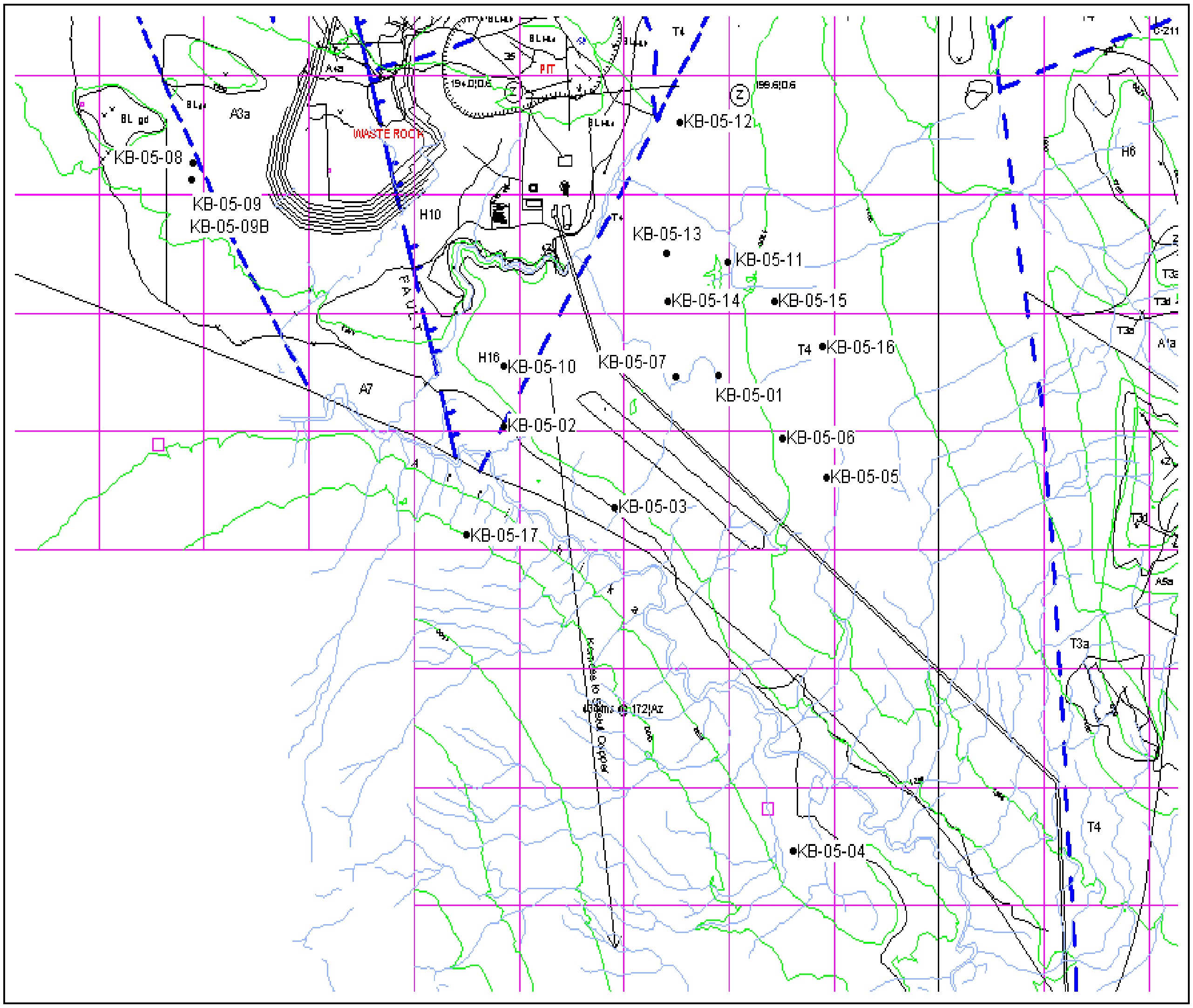

Figure 5 Bear Geology (Diakow 2001)

A3,A7- Asitka Group; T3a,T4-Takla Group; H10- Hazleton Group; BL- Black Lake Intrusives. Lithologies as coded discussed below. North to top of page

8.2 LITHOLOGY

Crowded Feldspar Porphyry (Asitka Gp-A7)

This unit was intercepted in the base of hole KB-05-17. Up to 70% 2-5mm euhedral feldspar phenocrysts reside in an aphenitic dark grey groundmass. The upper section, nearest the unconformable contact with Hazleton, shows strong oxidation and hematite staining. This unit is regionally mapped as intermediate volcanic.

Andesitic Volcanics (Takla Gp-T3, T4)

The property is predominantly underlain by a thick (>1000m) succession of andesitic flows and volcanic breccias. Takla volcanic rocks host a significant portion of the Au-Cu mineralization in the Kemess North deposit.

The andesite and basalt flows exhibit textures ranging from fine grained and massive to porphyritic with medium grained and mostly phyric, subhedral augite phenocrysts. Less common are phenocrysts of plagioclase. The fine-grained matrix is mostly comprised of plagioclase, quartz, and chlorite. The plagioclase is usually sericitized. Less common intersections of auto-brecciated flows occur as coarse sub-rounded andesitic clasts within both phyric and finer grained flows.

On surface, exposed in the North Kemess cirque headwalls and some upper intersections of drill intercepts is a bladed feldspar porphyritic unit. It exhibits a very well developed porphyritic texture with bladed felted laths of plagioclase up to 1.5 cm long within a finer grained dark gray matrix. Its texture suggests a hypabyssal origin or possibly an extrusive dome type emplacement.

Dacitic Polylithic Fragmental (Hazelton Gp,Toodoggone Fmn - H10,H16)

In the Bear drilling a framework supported conglomerate was reclassified into the Hazleton Group, previously interpreted as the Sustut Group. It is composed of 60% granite-diorite well-rounded clasts to 20cm in diameter, and 20% basalt-andesite likely of Takla origin as they are locally feldspar +/- augite porphyritic. Minor chert fragments, glassy fragments, and tuff lenses also appear. Matrix is composed of sandy textured small,<1mm lithic fragments including 0.1-0.5mm quartz eyes. While dependably diagnostic of Hazleton Group epiclastics, these quartz eyes may simply be remnants from intrusive fragments. Majority of volcanic fragments have orange-brown oxidised rind up to 1cm thick. Majority of intrusive clasts have been tinted pink-orange-brown by oxidation.

Local Toodoggone volcanics overlying the Kemess South area have been dated at 194+/-0.4 Ma. These are dark maroon volcanic tuffs, flows and breccias representing multiple eruptive cycles exhibiting heavily brecciated, blocky erosive flow bases. Clasts are hetrogenous angular fragments with sharp boundaries 1mm - 10cm subrounded to very angular shards, generally blocky. Lithologies include Takla volcanics, porphyritic intrusives, green-white aphenitic volcanics, black glassy retrograded fragments.

Mantling the northern and eastern limits of the Kemess North area is a matrix supported polylithic fragmental volcanic unit dated at 199.0 +/-0.3 Ma. Sub-rounded-angular coarse fragments of granitic intrusive, andesite, and chert occur within a siliceous (dacite) matrix. Lithic proportion to matrix is inconsistent ranging from 1-30% volumetrically, with clast size varying from lapilli to blocks. The matrix is fine-grained, comprised of 10-30% medium grained feldspar and diagnostic (5%) quartz phenocrysts.

The conglomerate unit appears to occupy a deeper basin than the epiclastic unit overlying Kemess South, and is interpreted as the older, due to a conformable contact intercepted in KB-05-04. This contact has not been identified elsewhere across the property, suggesting the conglomerate is a local facies, which was restricted to a paleochannel occupying the lowest topography of the time. The later epiclastics blanketed the entire region.

Quartz Monzonite/Quartz Diorite (Black Lake Intrusives - BLgd)

These intermediate intrusive units are comprised of subhedral phenocrysts of 50% plagioclase and <10% quartz set in a groundmass of quartz-feldspar-chlorite +/- biotite with accessory minerals including; magnetite, apatite, carbonate, rutile, ilmenite, sphene. The main quartz monzonite mass beneath East Cirque hosts the bulk of the Au/Cu mineralization at Kemess North. The Kemess South deposit is mainly comprised of the 199.6 +/- 0.6Ma Maple Leaf intrusion.

Post-Mineral Dykes

Post-ore dykes, including feldspar porphyry and minor mafic varieties cross cut Takla volcanics. The feldspar porphyry dykes also cross cut the Jurassic-Toodoggone fragmental unit. The feldspar dykes commonly exhibit pervasive dark pink hematite within the matrix and as staining of the medium grained feldspar phenocrysts. Due to the pink colour of the feldspars, these dykes take the field term syenite and are generally barren and unaltered. The relationship of the feldspar dykes with the larger quartz diorite stocks is not clear, however they appear temporally late in the sequence of events.

Mafic dykes are generally thin at < 1 to 4 metres wide, dark green, commonly amygdaloidal, and barren of sulphides and veining. Observations from regional mapping suggest they are related to the volcanic strata interbedded within Sustut Group sedimentary rocks and are interpreted as Cretaceous.

Also found on the property, cross-cutting Takla volcanics but not encountered cross-cutting porphyry mineralization, are megacrystic quartz rhyolite porphyry dykes. These dykes have conspicuous quartz phenocryst up to 2 centimeters in an off white to pale green groundmass.

8.3 STRUCTURE

Due to the lack of bedding and/or marker horizons, the inclination of the massive thick succession of volcanics is difficult to ascertain but probably reflects the regional trend of flat lying Mesozoic assemblages. Limited evidence indicates that strata dips gently to the southwest in the Bear area,

At least three steeply dipping, northwest trending normal faults have been inferred from surface mapping and drilling to transect the Kemess property. Fault spacing ranges from 500 and 1500 metres and they are generally parallel to the regional scale Duncan and Saunders Faults. Depth to the Hazleton/Takla unconformity appears to step down southwest across these structures. Both the Kemess North and South deposits are bound at their northern extents by steep east-west faults; a normal fault at Kemess North and a reverse fault at Kemess south.

Block faulting occurs in several locales, and is responsible for exposing the 500 meter wide “island” of Takla volcanics in an area of Hazleton. This block creates the airborne magnetic anomaly found in the 2003 survey.

8.4 ALTERATION, VEINING AND MINERALIZATION

Widespread weak sericite (phyllic) alteration was noted in Takla lithologies near the Hazleton/Takla unconformity across the Bear project area. This has been interpreted as meteoric/groundwater interaction during the interceding time before Hazleton eruption. At this time, supergene enrichment was occurring over the Kemess South ore body. This alteration is responsible for destruction of primary magnetite in the volcanics, resulting in the geophysical anomaly noted in airborne surveys.

Hole KB-05-12 returned 30m exhibiting adularia-silica alteration suggestive of epithermal style mineralization. Anomalous gold values up to 0.4 g/t were returned from this zone.

9.0 EXPLORATION WORK

9.1 LINE CUTTING AND GEOPHYSICS

In 2004 65 kms of cut line were created over the Bear claims. Soil sampling was conducted to confirm the grid parameters, but the results, as expected, were not significant due to Quaternary cover.

IP geophysics was also completed at this time. Discovery International Geophysics Ltd. conducted 65kms of pole-dipole IP. Pseudosections for chargeability and resistivity were generated, and processed using an inversion algorithm. Broad, flat lying discontinuities were interpreted as the Hazleton/Takla contact, while sharp features were interpreted as structures.

None of this work is being claimed for assessment credit and results are therefore not included in this report, though they were used in drill target generation.

9.2 DRILLING

The combined 2005 Drilling Programs were carried out as a two phase, 18 hole, diamond drill program totaling 5786 metres. The exploration work was separated into; a winter program on swampy areas January 15 - February 18, a skid program May 6 - May 31, and a helicopter supported program June 1 - June 11. Drill hole collar locations are shown in Figure 8 and are tabulated with orientation and hole length data in Table 5.

Driftwood Diamond Drilling of Smithers B.C performed the initial winter drilling (holes KB-05-01 through 07) and Britton Brothers Diamond Drilling of Smithers B.C. completed the spring drilling and reclamation work (holes KB-05-08 through 17). All holes were NQ diameter.

Holes were targeted based on surface geochemical and geophysical surveys completed in 2004, and the airborne geophysical survey conducted in 2003.

Table 5. 2005 Drill Collar Location and Orientation Data

Hole_ID	Nad83E	Nad83N	Elevation	Azimuth	Dip	Depth
KB-05-01	637899	6317472	1285	360	-90	337.4
KB-05-02	635854	6317047	1170	360	-88	351.4
KB-05-03	636909	6316358	1180	360	-90	345.6
KB-05-04	638610	6313460	1175	236	-88	373.1
KB-05-05	638932	6316616	1295	60	-89	352.7
KB-05-06	638505	6316947	1295	0	-90	254.5
KB-05-07	637492	6317465	1275	0	-90	348.4
KB-05-08	632898	6319267	1240	235	-70	253.2
KB-05-09	632882	6319131	1240	55	-70	68.3
KB-05-09B	632882	6319131	1240	55	-70	168.0
KB-05-10	635854	6317547	1300	0	-90	353.8
KB-05-11	637985	6318424	1300	0	-90	350.5
KB-05-12	637525	6319615	1300	0	-90	342.0
KB-05-13	637400	6318500	1300	180	-70	368.8
KB-05-14	637421	6318102	1292	186	-60	396.2
KB-05-15	638439	6318098	1303	186	-70	359.7
KB-05-16	638887	6317716	1345	180	-88	378.0
KB-05-17	635500	6316125	1300	0	-90	384.0
Total	18					5785.6

Hole KB-05-09 was lost due to cave during a bit change and was redrilled as KB-05-09B.

All completed drill hole collar locations and orientations were surveyed by handheld GPS.

Holes KB-05-01 through KB-05-03 were surveyed by acid test, to confirm their vertical nature. Later down hole surveys were done, at 3.3m (10 foot) intervals on each hole using a FlexIT borehole survey instrument. Due to the inherent magnetite content of the rock some suspect survey measurements have been omitted from the down hole survey data. The validity of survey data was determined based on magnetic variation measurements provided by the FlexIT tool.

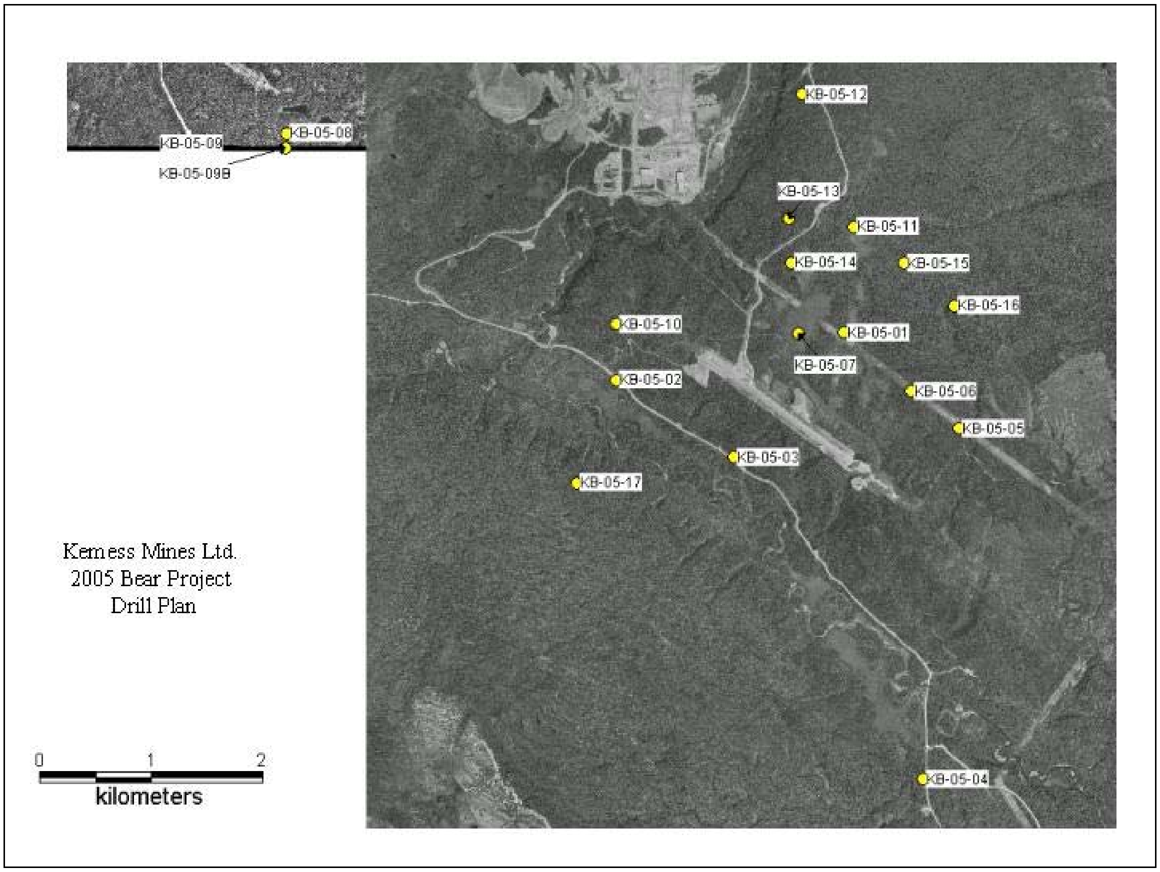

Figure 6 2005 Bear Drill Hole Locations

North to top of page. Kemess South mine top center.

9.3 DRILL CORE PROCESSING

Contiguous core samples were logged by geologists, then split or sawn, and crushed on site. Half core is retained at site in core racks. A total of 2,103 prepared samples and 82 quality control samples were submitted for analysis.

All drill holes were logged for both geologic and geotechnical properties. All drill core was digitally photographed and the magnetic susceptibility of each sample was measured. Sample intervals were determined by a geologist and usually ranged from 0.3 up to 2.0 metres for NQ and up to1.5 metres for HQ size core. Sample intervals do not straddle lithologic boundaries.

An on-site sample preparation laboratory was established to complete the primary crushing (80% minus 10-mesh) of cut or split diamond drill core. Operation of the sample preparation laboratory and the quality control procedures were implemented under the supervision of Bill Smith, Chief Assayer at Kemess Mine.

The 2,103 prepared samples, weighing approximately 250 grams, were submitted to ALS Chemex's North Vancouver laboratory during the 2005 program. Quality control samples (blanks, duplicates, and standards) were inserted into the sample stream at regular intervals such that 1 in 26 samples were submitted for quality control purposes. A total of 82 quality control samples were submitted during the 2005 program. This amounted to 4.2% of the entire population of samples submitted to ALS Chemex.

At ALS Chemex samples were pulverized to better than 85 % minus 150-mesh (-75 microns) and submitted for 34 element analysis, by aqua-regia acid digestion and ICP-AES. This process quantitatively dissolves base metals for the majority of geological materials. Major rock forming elements and more resistive metals are only partially dissolved. Copper assay was done by triple acid digestion, HCl - HNO3 - HBr, 2 gram, digestion in Teflon beakers, with an atomic absorption finish. Samples were also submitted to a one assay-tonne gold fire assay, 30 gram nominal sample weight fire assay fusion by lead flux with Ag collector, with an atomic absorption finish.

9.4 DRILLING RESULTS

Diamond drilling on the Bear property greatly enhanced the geologic understanding of the area. Facies variation within the lower Hazleton was defined over a broad area, assisting in the interpretation of syn-mineral tectonic activity. Regional mapping by the BC Geological Survey incorporated these results and arrived at a two-phased, disconformable interpretation for the Hazleton group. No mineralization of ore grade or size was discovered during the 2005 Bear program. All significant results are tabulated in Table 6.

Table 6. 2005 Bear Drill Results

Hole_ID	From	To	Interval	Au	Cu%
	(m)	(m)	(m)	(ppm)	(%)
KB-05-08	36.00	38.00	2.00	0.155	0.004
KB-05-08	48.00	50.00	2.00	0.111	0.005
KB-05-08	58.00	60.00	2.00	0.119	0.011
KB-05-12	74.00	86.00	12.00	0.108	0.016
KB-05-12	102.00	134.00	32.00	0.124	0.020
KB-05-12	152.50	160.00	7.50	0.227	0.013
KB-05-15	32.10	36.58	4.48	0.192	0.005
KB-05-17	326.90	331.30	4.40	0.165	0.006

9.5 QAQC PROGRAM

The following is a summary of the complete QAQC report included in Appendices.

9.5.1 Program Overview

The Kemess Property 2005 Sample Preparation and Analytical Quality Assurance program follows protocols established for the Kemess North 2002 drilling program. The objective of this program is to provide sound and accurate gold and copper analytical results for use in resource/reserve estimates of Kemess Property deposits and for evaluation of other target areas on the property being investigated by Northgate Minerals Corporation. This objective was achieved through the implementation of quality control procedures that include the insertion on blanks, standards, and duplicates into the sample stream and then monitoring and evaluating the quality control analytical results.

A total of 6,188 prepared samples, weighing approximately 250 grams, were submitted to ALS Chemex's Vancouver laboratory during the 2005 program.

9.5.2 Summary and Conclusions

A total of 247 sample preparation and analytical quality control samples were submitted, at a frequency of 1 in 26, along with 6,188 prepared mainstream samples, to ALS Chemex during the Kemess Property 2005 Drilling program. This amounted to 4 % of the entire population of samples submitted to ALS Chemex, including 62 blanks, 61 standards, and 123 duplicates. A selected batch of 535 pulps, from several drillholes, was submitted for screen analysis to evaluate pulp grind size.

Screen analysis of pulps, by Ecotech Laboratories, indicate that only 61% of pulps were actually pulverized to the ALS Chemex specification of "better than 85 % minus 150-mesh (-75 microns)" However, all pulps do meet a specification of better than 60 % minus 150-mesh.

Evaluation of the 62 gold and copper analyses of blanks indicates that no significant or systematic contamination or laboratory error occurred during the course of the program.

ALS Chemex results for the 61 quality control standards, analyzed throughout the program, reported within industry accepted +/- 3 standard deviation error limits.

Evaluation of 123 reject duplicate matched-pair analyses indicates that, for the vast majority of samples, results are precise at grades of interest. The precision levels are comparable to results of the 2002 through 2004 programs. Good levels of precision, 9 % precision for gold and 3 % for copper, are demonstrated at grades of 0.4 g/t and 0.2 % respectively.

Evaluation of the quality control results indicates that the preparatory work performed by Northgate/Kemess staff and the analytical work performed by ALS Chemex provided sound and accurate gold and copper results for the Kemess Property 2005 Drilling program. Therefore gold and copper results from this program are suitable for use in any subsequent resource/reserve estimation for Kemess Property Copper-Gold deposits.

10.0 CONCLUSIONS AND RECOMMENDATIONS

The 2005 Bear Drilling program did not return significant mineralization, or indications warranting follow-up. Untested areas remain on the Bear property, particularly at the extreme south, and the northeast corner, towards the Kemess South tailings impoundment. Of these, the area nearest the dam is most prospective. The Takla/Hazleton unconformity has been mapped on the hillside south west of the dam, leading to the interpretation that Hazleton cover in this area is thin. This area has not been covered with geochemistry or geophysics.

In the absence of copper mineralization, the following have being identified as indicators peripheral to porphyry copper mineralization on the Kemess property: pyrite content, magnetic susceptibility, Cr, Fe, La, Mg, Ni, and S. An examination of these indicators suggests that the Bear holes are not located within one-half a kilometre of a porphyry copper deposit. However, vectoring using these indicators does suggest taking a large step-out from existing Bear Holes to the NE, towards the South Dam area as suggested by geological findings. Vectoring using these indicators also confirms the direction from the Bear drill holes towards the known Kemess south deposit.

11.0 STATEMENT OF COSTS

Exploration costs for the 2005 Bear Project (excluding KB-05-12 located within mining lease), totaled $**740,532** as outlined in Table 7 below. Expenditures were incurred between January 15 and October 31, 2005, except for report preparation. Expenditures of $642,389.58 were applied to claims as noted in Statement of Work event # 4059739 and 4059742, with the balance applied to Kemess Mines Ltd.'s Portable Assessment Credit account.

Table 7. 2005 Kemess Bear Summary of Expenditures

Assays	Au FA, Cu -FA ICP-MS Lab costs, storage	2030 samples @$23.22ea.	$	47,129
Drilling	Driftwood Diamond Drilling Britton Brothers Diamond Drilling	$122,554 $355,760	$	478,314
Helicopter	Canadian Helicopters Bell Long Ranger	31.4 hrs @ $1185/hr	$	37,198
Geological Services	Brian Kay Project Geologist Mark Rein Field Geologist Ron Konst Database Geologist	62 days 65 days 25 days	$	47,466
Staff/Students		71 mandays @ $240/day	$	16,992
Sample Prep and Transport		2030 samples @$17.20ea.	$	34,916
Fuel	Diesel and Jet B		$	16,633
Vehicles	Ford pickup lease	3.8 months @ $1700/month	$	6,413
Camp Costs		660 mandays @ $35/day	$	23,100
Supplies/ Equipment Rental			$	22,058
Flights	NT Air charter YVR or YXS to site rtn.	20 @$250ea	$	5,000
Report Prep			$	5,313
Total			**$**	**740,532**

12.0 STATEMENT OF QUALIFICATIONS

I, Brian George Kay, of 215-488 Helmcken St. Vancouver, British Columbia, Canada, do hereby certify that:

1. I have supervised the 2005 exploration program completed at Kemess, reviewed all the data contained herein, and contributed to the preparation of this report.

2. I graduated from Simon Fraser University Dec. 2000 with a B.Sc. in Geology.

3. I am a Professional Geoscientist (P.Geo.) registered with the Association of Professional Engineers and Geoscientists of British Columbia, member # 29684, and have been a member in good standing since June 2005.

4. From 2000 until present I have been continuously employed as a Geologist in mineral exploration.

Dated at, Vancouver, B.C. the 13 day of March 2006.

B.G. Kay

B. G. KAY
#29684
BRITISH COLUMBIA
GEOSCIENTIST

STATEMENT OF QUALIFICATIONS

I, Frederick Carl Edmunds, of 1115 Queens Avenue, West Vancouver, British Columbia, Canada, do hereby certify that:

1. I have supervised the 2005 exploration program completed at Kemess, reviewed all the data contained herein, and contributed to the preparation of this report.

2. I graduated from the University of Edinburgh in 1983 with a B.Sc. (Honours) in Geology.

3. I graduated from Queens University, Kingston, Ontario in 1988 with an M.Sc. in Mineral Exploration.

4. I am a Professional Geoscientist (P.Geo.) registered with the Association of Professional Engineers and Geoscientists of British Columbia, member # 19724, and have been a member in good standing since 1992.

5. From 1985 until present I have been continuously employed as a Geologist in mineral exploration.

Dated at, Vancouver the 13th day of MARCH 2006.

F.C Edmunds

STATEMENT OF QUALIFICATIONS

I, Ronnald A. Konst, of 1691 Broadlands Road, Errington, British Columbia, Canada, do hereby certify that:

1. I have co-supervised the 2005 exploration program completed at Kemess, reviewed all the data contained herein, and contributed to the preparation of this report.

2. I have studied Geology at the University British Columbia in Vancouver, British Columbia and have received a Bachelor of Sciences degree in 1984.

3. I have continuously practiced my profession as an exploration geologist since graduation until 1998 in Canada, U.S.A., and Mexico. For the period of 1998 through 2002 I was employed as a Quality Assurance Specialist and Database Analyst in the Information Technologies sector. I resumed practice of my profession as an exploration geologist in 2003. Since then I have been continuously employed as a Geologist in mineral exploration.

Dated at Errington, British Columbia, the 13th day of March 2006.

Ronnald A. Konst, B.Sc.

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14.0 LIST OF APPENDICES

Appendix 1: Diamond Drilling Logs with Results

Appendix 2: Diamond Drilling Geotechnical Logs

Appendix 3: ALS Chemex Assay and ICP Certificates

Appendix 4: QAQC Report

Appendix 5: Plan Map – 1:10,000 Grid, Claims, DDH Locations

Appendix 6: Sections – 1:1,000 DDH Au (right), Cu (left) Assay Results

Kemess Bear 2005 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KB-05-01***

Northing:	7110.45	**Total Depth:**	337.4 **m**
Easting:	11660	**Azimuth:**	360°
Elevation:	1285	**Dip:**	-90°

Geologist: Brian Kay

Drilled: 1/20/2005

Survey Depth	**Azimuth**	**Dip**
330.0 m	360°	-90°

Kemess Bear 2005 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KB-05-02***

Northing:	6754.65	**Total Depth:**	351.4 **m**
Easting:	9598	**Azimuth:**	360°
Elevation:	1170	**Dip:**	-88°

Geologist: Mark Rein

Drilled: 1/24/2005

Survey Depth	**Azimuth**	**Dip**
340.0 m	360°	-88°

Kemess Bear 2005 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KB-05-03***

Northing:	6070.53	**Total Depth:**	345.6 **m**
Easting:	10627	**Azimuth:**	360°
Elevation:	1180	**Dip:**	-90°

Geologist: Brian Kay

Drilled: 1/28/2005

Survey Depth	**Azimuth**	**Dip**
340.0 m	360°	-90°

Kemess Bear 2005 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KB-05-04***

Northing: 3065.84 **Total Depth:** 373.1 **m**

Easting: 12230 **Azimuth:** 236°

Elevation: 1175 **Dip:** -88°

Geologist: Mark Rein

Drilled: 2/1/2005

Survey Depth	Azimuth	Dip									
			37.8 m	237.56°	-88.29°	40.8 m	238.92°	-88.49°	43.9 m	237.87°	-88.48°
46.9 m	246.32°	-88.4°	50.0 m	247.12°	-88.57°	53.0 m	246.41°	-88.56°	56.1 m	243.89°	-88.53°
59.1 m	239.12°	-88.67°	62.2 m	242.27°	-88.72°	65.2 m	247.32°	-88.85°	68.3 m	248.99°	-88.99°
71.3 m	233.6°	-89.01°	74.4 m	251.09°	-88.69°	77.4 m	234.9°	-88.93°	80.5 m	244.61°	-88.58°
83.5 m	236.12°	-88.45°	86.6 m	231.85°	-88.5°	89.6 m	242.38°	-88.72°	92.7 m	228.77°	-88.61°
95.7 m	243.08°	-88.59°	98.8 m	233.38°	-88.62°	101.8 m	236.52°	-88.71°	104.9 m	246.06°	-88.64°
107.9 m	232.79°	-88.77°	110.9 m	243.25°	-88.63°	114.0 m	241.61°	-88.79°	117.0 m	246.05°	-88.58°
120.1 m	239.8°	-88.66°	123.1 m	231.67°	-88.66°	126.2 m	242.28°	-88.69°	129.2 m	237.52°	-88.58°
132.3 m	242.81°	-88.57°	135.3 m	240.06°	-88.64°	138.4 m	236.85°	-88.54°	141.4 m	236.72°	-88.58°
144.5 m	240.95°	-88.64°	147.5 m	238.57°	-88.57°	150.6 m	236.91°	-88.56°	153.6 m	239.65°	-88.56°
156.7 m	233.04°	-88.61°	159.7 m	236.24°	-88.66°	162.8 m	238.88°	-88.55°	165.8 m	239.66°	-88.69°
168.9 m	238.52°	-88.59°	171.9 m	235.13°	-88.74°	175.0 m	240.34°	-88.63°	178.0 m	236.38°	-88.64°
181.1 m	242.13°	-88.68°	184.1 m	238.43°	-88.64°	187.1 m	242.1°	-88.77°	190.2 m	238.67°	-88.7°
193.2 m	247.86°	-88.71°	196.3 m	248.19°	-88.78°	199.3 m	246.7°	-88.74°	202.4 m	247.96°	-88.86°
205.4 m	239.93°	-88.69°	208.5 m	236.67°	-88.71°	211.5 m	234.94°	-88.67°	214.6 m	245.86°	-88.81°

Kemess Bear 2005 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KB-05-04***

Northing:	3065.84	**Total Depth:**	373.1 **m**
Easting:	12230	**Azimuth:**	236°
Elevation:	1175	**Dip:**	-88°

Geologist: Mark Rein

Drilled: 2/1/2005

Survey Depth	Azimuth	Dip
217.6 m	243.87°	-88.78°
220.7 m	238.33°	-88.7°
223.7 m	238.08°	-88.72°
226.8 m	252.47°	-88.86°
229.8 m	253.45°	-88.65°
232.9 m	257.03°	-88.82°
235.9 m	250.03°	-88.71°
239.0 m	255.49°	-88.84°
242.0 m	256.23°	-88.91°
245.1 m	248.28°	-88.86°
248.1 m	260.64°	-88.93°
251.2 m	258.32°	-88.75°
254.2 m	261.49°	-88.9°
257.3 m	253.03°	-88.97°
260.3 m	252.93°	-89.09°
263.3 m	257.2°	-89.04°
266.4 m	252.02°	-89.35°
269.4 m	257.12°	-89.27°
272.5 m	229.21°	-89.47°
275.5 m	263.49°	-89.23°
278.6 m	280.06°	-89.05°
281.6 m	271.41°	-89.2°
284.7 m	250.86°	-88.87°
287.7 m	262.27°	-89.37°
290.8 m	266.36°	-89.28°
293.8 m	269.74°	-89.16°
296.9 m	269.12°	-89.06°
299.9 m	268.87°	-88.91°
303.0 m	267.86°	-89.1°
306.0 m	258.29°	-88.97°
309.1 m	237.33°	-89.15°
312.1 m	275.78°	-89.08°
315.2 m	267.41°	-89.08°
318.2 m	272.18°	-89.16°
321.3 m	251.39°	-89.04°
324.3 m	244.1°	-89.4°
327.4 m	246.78°	-89.02°
330.4 m	251.73°	-88.97°
333.5 m	269.63°	-89.3°
336.5 m	260°	-88.98°
339.5 m	260.88°	-89.06°
342.6 m	272.78°	-89.07°
345.6 m	259.77°	-88.97°
348.7 m	269.26°	-89.07°
351.7 m	246.64°	-89.24°
354.8 m	270.44°	-88.99°
357.8 m	269.58°	-89.05°
360.9 m	265.38°	-88.93°
363.9 m	256.04°	-89.3°
367.0 m	252.98°	-88.9°
370.0 m	255.86°	-88.85°

Kemess Bear 2005 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KB-05-05***

Northing: 5888.84 **Total Depth:** 352.7 **m**

Easting: 13123 **Azimuth:** 60°

Elevation: 1295 **Dip:** -89°

Geologist: Mark Rein

Drilled: 2/6/2005

Survey Depth	**Azimuth**	**Dip**									
			29.6 m	71.5°	-89.26°	32.6 m	28.7°	-89.3°	35.7 m	52.39°	-89.15°
38.7 m	56.53°	-89.13°	41.8 m	82.95°	-89.54°	44.8 m	36.43°	-89.4°	47.9 m	47.73°	-89.44°
50.9 m	52.22°	-89.34°	53.9 m	25.43°	-89.39°	57.0 m	61.89°	-89.58°	60.0 m	65.89°	-89.53°
63.1 m	42.74°	-89.72°	66.1 m	36.85°	-89.26°	69.2 m	11.75°	-89.5°	72.2 m	35.25°	-89.14°
75.3 m	49.82°	-89.7°	78.3 m	32.09°	-89.6°	81.4 m	35.19°	-89.69°	84.4 m	39.58°	-89.72°
87.5 m	59.06°	-89.53°	90.5 m	61.5°	-89.51°	93.6 m	38.9°	-89.72°	96.6 m	24.84°	-89.24°
99.7 m	28.08°	-89.65°	102.7 m	57.52°	-89.6°	105.8 m	41.27°	-89.19°	108.8 m	81.54°	-89.65°
111.9 m	30.67°	-89.28°	114.9 m	76.61°	-89.63°	118.0 m	20.98°	-89.41°	121.0 m	62.3°	-89.3°
124.1 m	28.79°	-89.49°	127.1 m	82.3°	-89.52°	130.1 m	24.36°	-89.46°	133.2 m	56.54°	-89.21°
136.2 m	88.81°	-89.53°	139.3 m	69.15°	-89.23°	142.3 m	84.28°	-89.71°	145.4 m	29.51°	-89.68°
148.4 m	31.96°	-89.67°	151.5 m	32.52°	-89.48°	154.5 m	40.03°	-89.33°	157.6 m	62.27°	-89.33°
160.6 m	76.8°	-89.37°	163.7 m	70.52°	-89.72°	166.7 m	77.86°	-89.2°	169.8 m	75.06°	-89.32°
172.8 m	42.9°	-89.15°	175.9 m	76.89°	-89.39°	178.9 m	26.06°	-89.49°	182.0 m	66.27°	-89.26°
185.0 m	79.58°	-89.62°	188.1 m	89.41°	-89.61°	191.1 m	20.87°	-89.44°	194.2 m	88.56°	-89.65°
197.2 m	34.13°	-89.67°	200.3 m	61.3°	-89.27°	203.3 m	35.73°	-89.37°	206.3 m	91.63°	-89.34°

Kemess Bear 2005 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KB-05-05***

Northing:	5888.84	**Total Depth:**	352.7 **m**
Easting:	13123	**Azimuth:**	60°
Elevation:	1295	**Dip:**	-89°

Geologist: Mark Rein

Drilled: 2/6/2005

Survey Depth	Azimuth	Dip									
			209.4 m	46.91°	-89.26°	212.4 m	68.19°	-89.22°	215.5 m	76.68°	-89.77°
218.5 m	41.5°	-89.77°	221.6 m	33.2°	-89.73°	224.6 m	47.14°	-89.25°	227.7 m	44.16°	-89.32°
230.7 m	84.74°	-89.52°	233.8 m	29.37°	-89.66°	236.8 m	67.65°	-89.23°	239.9 m	32.97°	-89.71°
242.9 m	85.03°	-89.3°	246.0 m	84.48°	-89.65°	249.0 m	91.92°	-89.45°	252.1 m	68.31°	-89.41°
255.1 m	35.17°	-89.32°	258.2 m	83.75°	-89.64°	261.2 m	27.87°	-89.63°	264.3 m	78.74°	-89.64°
267.3 m	79.28°	-89.65°	270.4 m	44.22°	-89.24°	273.4 m	53.71°	-89.7°	276.5 m	68.41°	-89.58°
279.5 m	66.84°	-89.66°	282.5 m	73.39°	-89.41°	285.6 m	72.8°	-89.28°	288.6 m	74.55°	-89.57°
291.7 m	33.86°	-89.19°	294.7 m	39.38°	-89.11°	297.8 m	33.58°	-89.23°	300.8 m	30.88°	-89.29°
303.9 m	37.62°	-89.2°	306.9 m	73.88°	-89.3°	310.0 m	33.26°	-89.24°	313.0 m	70.9°	-89.14°
316.1 m	69.51°	-89.18°	319.1 m	55.82°	-89.62°	322.2 m	64.33°	-89.62°	325.2 m	40.21°	-89.36°
328.3 m	67.87°	-89.46°	331.3 m	68.36°	-89.38°	334.4 m	45.76°	-89.29°	337.4 m	43.5°	-89.29°
340.5 m	45.55°	-89.18°	343.5 m	52.36°	-89.52°	346.6 m	56.33°	-89.48°	349.6 m	72.49°	-89.36°
352.7 m	69.54°	-89.38°									

Kemess Bear 2005 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KB-05-06***

Northing:	6618.04	**Total Depth:**	254.5 **m**
Easting:	12246	**Azimuth:**	0°
Elevation:	1295	**Dip:**	-90°

Geologist: Brian Kay

Drilled: 2/13/2005

Survey Depth	Azimuth	Dip
300.0 m	0°	-90°

Kemess Bear 2005 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KB-05-07***

Northing:	7110	**Total Depth:**	348.4 **m**
Easting:	11260	**Azimuth:**	0°
Elevation:	1275	**Dip:**	-90°

Geologist: Brian Kay

Drilled: 2/17/2005

Survey Depth	Azimuth	Dip									
			50.9 m	252.77°	-88.64°	57.0 m	258.88°	-88.59°	63.1 m	253.61°	-88.8°
69.2 m	250.05°	-88.89°	75.3 m	252.04°	-88.76°	81.4 m	250.88°	-88.89°	87.5 m	248.76°	-88.74°
93.6 m	238.62°	-88.79°	99.7 m	248.22°	-88.99°	105.8 m	250.73°	-88.99°	111.9 m	247.63°	-88.81°
118.0 m	257.46°	-88.59°	124.1 m	251.74°	-88.67°	130.1 m	272.26°	-88.87°	136.2 m	249.89°	-88.64°
142.3 m	245.9°	-88.6°	148.4 m	254.93°	-88.42°	154.5 m	261.31°	-88.38°	160.6 m	237.13°	-88.39°
166.7 m	249.64°	-88.29°	172.8 m	243.19°	-88.35°	178.9 m	234.55°	-88.38°	185.0 m	248.12°	-88.19°
191.1 m	238.69°	-88.17°	197.2 m	237.44°	-88.41°	203.3 m	230.99°	-88.4°	209.4 m	235.75°	-88.07°
221.6 m	227.37°	-88.44°	227.7 m	229.7°	-88.25°	233.8 m	233.81°	-88.5°	239.9 m	235.82°	-88.53°
246.0 m	239.18°	-88.21°	252.1 m	242.01°	-88.59°	258.2 m	242.9°	-88.24°	264.3 m	247.18°	-88.32°
270.4 m	242.21°	-88.49°	276.5 m	235.88°	-88.48°	282.5 m	254.31°	-88.36°	288.6 m	246.08°	-88.39°
300.8 m	250.37°	-88.09°	306.9 m	239.66°	-88.15°	313.0 m	242.21°	-88.46°	319.1 m	253.98°	-88.46°

Kemess Bear 2005 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KB-05-08***

Northing:	9055	**Total Depth:**	253.2 **m**
Easting:	6736	**Azimuth:**	235°
Elevation:	1240	**Dip:**	-70°

Geologist: Carl Edmunds

Drilled: 5/11/2005

Survey Depth	Azimuth	Dip
253.0 m	235°	-72°

Kemess Bear 2005 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KB-05-09***

Northing:	8919	**Total Depth:**	68.3 **m**
Easting:	6716	**Azimuth:**	55°
Elevation:	1240	**Dip:**	-70°

Geologist: Mark Rein

Drilled: 5/12/2005

Survey Depth	Azimuth	Dip
67.0 m	55°	-70°

Kemess Bear 2005 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KB-05-09B***

Northing:	8919	**Total Depth:**	168 **m**
Easting:	6716	**Azimuth:**	55°
Elevation:	1240	**Dip:**	-70°

Geologist: Mark Rein

Drilled: 5/13/2005

Survey Depth	Azimuth	Dip
167.0 m	55°	-68°

Kemess Bear 2005 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KB-05-10***

Northing:	7346	**Total Depth:**	353.8 **m**
Easting:	9623	**Azimuth:**	0°
Elevation:	1300	**Dip:**	-90°

Geologist: Mark Rein

Drilled: 5/18/2005

Survey Depth	Azimuth	Dip
323.0 m	0°	-86°

Kemess Bear 2005 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KB-05-11***

Northing:	8058	**Total Depth:**	350.5 **m**
Easting:	11794	**Azimuth:**	0°
Elevation:	1300	**Dip:**	-90°

Geologist: Mark Rein

Drilled: 5/22/2005

Survey Depth	Azimuth	Dip
300.0 m	0°	-90°

Kemess Bear 2005 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KB-05-12***

Northing:	8950	**Total Depth:**	342 **m**
Easting:	11321	**Azimuth:**	0°
Elevation:	1300	**Dip:**	-90°

Geologist: Brian Kay

Drilled: 5/26/2005

Survey Depth	Azimuth	Dip									
			48.8 m	30.27°	-88.69°	51.8 m	28.22°	-88.69°	54.9 m	26.52°	-88.65°
57.9 m	24.01°	-88.7°	61.0 m	23.22°	-88.71°	64.0 m	20.99°	-88.69°	67.1 m	19.39°	-88.54°
70.1 m	26.95°	-88.7°	73.2 m	23.7°	-88.73°	76.2 m	25.38°	-88.72°	79.2 m	24.2°	-88.77°
82.3 m	24.95°	-88.76°	85.3 m	24.78°	-88.74°	88.4 m	23.41°	-88.75°	91.4 m	25.68°	-88.69°
94.5 m	27.09°	-88.72°	97.5 m	26.17°	-88.73°	100.6 m	28.02°	-88.75°	103.6 m	35.12°	-88.77°
106.7 m	30.21°	-88.77°	109.7 m	31.01°	-88.81°	112.8 m	30.48°	-88.88°	115.8 m	32.68°	-88.88°
118.9 m	31.14°	-88.92°	121.9 m	32.51°	-88.92°	125.0 m	32.06°	-88.96°	128.0 m	45.44°	-88.81°
131.1 m	45.18°	-88.81°	134.1 m	44.87°	-88.79°	137.2 m	44.11°	-88.77°	140.2 m	44.3°	-88.7°
143.3 m	60.2°	-88.93°	146.3 m	60.09°	-89.02°	149.4 m	60.15°	-89.02°	152.4 m	60.84°	-89.03°
155.4 m	60.81°	-89°	158.5 m	62.31°	-89.03°	161.5 m	62.62°	-89.07°	164.6 m	62.8°	-89.01°
167.6 m	60.69°	-89.01°	170.7 m	60.24°	-89°	173.7 m	60.1°	-89.07°	176.8 m	60.47°	-89.07°
179.8 m	62.95°	-89.09°	182.9 m	61.57°	-89.07°	185.9 m	60.34°	-89.05°	189.0 m	63.05°	-89.09°
192.0 m	62.97°	-89.1°	195.1 m	63.88°	-89.09°	198.1 m	68.76°	-89.13°	201.2 m	61.34°	-89.15°
204.2 m	59.81°	-89.13°	207.3 m	54.13°	-89.09°	210.3 m	55.6°	-89.1°	213.4 m	54.74°	-89.09°
216.4 m	57.24°	-89.11°	219.5 m	48.69°	-89.08°	222.5 m	52.67°	-89.09°	225.6 m	50.72°	-89.07°

Kemess Bear 2005 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KB-05-12***

Northing:	8950	**Total Depth:**	342 **m**
Easting:	11321	**Azimuth:**	0°
Elevation:	1300	**Dip:**	-90°

Geologist: Brian Kay

Drilled: 5/26/2005

Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip
			228.6 m	51.51°	-89.05°	231.6 m	52.38°	-89.04°	234.7 m	48.35°	-89.18°
237.7 m	51.69°	-89.16°	240.8 m	42.86°	-89.31°	243.8 m	26.5°	-89.23°	246.9 m	32.95°	-89.3°
249.9 m	28.68°	-89.29°	253.0 m	24.24°	-89.18°	256.0 m	21.24°	-89.13°	259.1 m	26.29°	-89.06°
262.1 m	23°	-89°	265.2 m	26.27°	-88.93°	268.2 m	34.13°	-88.92°	271.3 m	35.95°	-88.88°
274.3 m	44.92°	-89.02°	277.4 m	42.12°	-89.21°	280.4 m	34.05°	-89.16°	283.5 m	34.12°	-89.23°
286.5 m	27.83°	-89.15°	289.6 m	26.14°	-89.16°	292.6 m	25.08°	-89.06°	295.7 m	25.36°	-89.02°
298.7 m	35.94°	-88.87°	301.8 m	36.91°	-88.95°	304.8 m	46.28°	-89.09°	307.8 m	44.34°	-89.23°
310.9 m	36.95°	-89.35°	313.9 m	28.94°	-89.37°	317.0 m	24.09°	-89.2°	320.0 m	25.72°	-89.11°
323.1 m	31.19°	-89.09°	326.1 m	34.65°	-89.1°	329.2 m	40.02°	-89.1°	332.2 m	25.32°	-89.37°
335.3 m	27.51°	-89.21°	338.3 m	32.81°	-89.16°	341.4 m	22.69°	-89.25°			

Kemess Bear 2005 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KB-05-13***

Northing:	8153.55	**Total Depth:**	368.8 **m**
Easting:	11195.1	**Azimuth:**	180°
Elevation:	1300	**Dip:**	-70°

Geologist: Brad McKinley

Drilled: 5/28/2005

Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip
			51.8 m	176.98°	-68.4°	57.9 m	179.54°	-68.37°	64.0 m	176.86°	-68.48°
70.1 m	176.51°	-68.5°	76.2 m	175.27°	-68.44°	82.3 m	177.58°	-68.49°	88.4 m	178.49°	-68.46°
94.5 m	176.24°	-68.58°	100.6 m	176.11°	-68.65°	106.7 m	176.68°	-68.78°	112.8 m	176.82°	-68.79°
118.9 m	176.84°	-68.85°	125.0 m	178.03°	-69.03°	131.1 m	181.79°	-68.85°	137.2 m	178.33°	-68.92°
143.3 m	179.01°	-68.9°	149.4 m	178.39°	-68.91°	155.4 m	178.53°	-68.93°	161.5 m	180.85°	-69.04°
167.6 m	178.93°	-69.08°	173.7 m	181.23°	-69.23°	179.8 m	180.85°	-69.11°	185.9 m	180.55°	-69.19°
192.0 m	179.69°	-69.2°	198.1 m	180.42°	-69.17°	204.2 m	178.68°	-69.25°	210.3 m	181.01°	-69.22°
216.4 m	183.65°	-69.26°	222.5 m	180.6°	-69.26°	228.6 m	183.47°	-69.28°	234.7 m	180.49°	-69.41°
240.8 m	185.09°	-69.58°	246.9 m	180.53°	-69.52°	253.0 m	181.77°	-69.42°	259.1 m	182.83°	-69.55°
265.2 m	182.49°	-69.59°	271.3 m	185.66°	-69.65°	277.4 m	181.95°	-69.68°	283.5 m	181°	-69.66°
289.6 m	181.28°	-69.52°	295.7 m	181.55°	-69.59°	301.8 m	180.47°	-69.49°	307.8 m	184.35°	-69.4°

Kemess Bear 2005 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KB-05-14***

Northing:	7754.98	**Total Depth:**	396.2 **m**
Easting:	11203.1	**Azimuth:**	186°
Elevation:	1292	**Dip:**	-60°

Geologist: Brad McKinley

Drilled: 5/31/2005

Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip
			51.8 m	182.75°	-59.62°	54.9 m	182.32°	-59.54°	57.9 m	182.69°	-59.25°
61.0 m	182.62°	-59.43°	64.0 m	182.54°	-59.53°	67.1 m	183.78°	-59.33°	70.1 m	183.87°	-59.3°
73.2 m	184.77°	-59.52°	76.2 m	184.91°	-59.43°	79.2 m	185.44°	-59.49°	82.3 m	185.09°	-59.6°
85.3 m	184.38°	-59.46°	88.4 m	185.25°	-59.72°	91.4 m	185.12°	-59.78°	94.5 m	184.83°	-59.94°
97.5 m	184.6°	-59.96°	100.6 m	184.07°	-60.06°	103.6 m	183.61°	-60.09°	106.7 m	183.32°	-60.09°
109.7 m	183.14°	-60.01°	112.8 m	182.98°	-60.05°	115.8 m	182.71°	-60.01°	118.9 m	182.58°	-59.94°
121.9 m	182.61°	-59.97°	125.0 m	182.48°	-59.98°	128.0 m	182.76°	-59.94°	131.1 m	182.81°	-59.87°
134.1 m	183.24°	-59.96°	137.2 m	184.01°	-59.95°	140.2 m	183.8°	-59.91°	143.3 m	183.9°	-59.95°
146.3 m	183.82°	-59.89°	149.4 m	184.47°	-59.93°	152.4 m	185.23°	-60.07°	155.4 m	186.58°	-59.86°
158.5 m	183.56°	-60.01°	161.5 m	185.82°	-59.98°	164.6 m	186.74°	-60.12°	167.6 m	186.23°	-60.37°
170.7 m	186.52°	-60.36°	173.7 m	186.43°	-60.24°	176.8 m	185.93°	-60.36°	179.8 m	185.86°	-60.42°
182.9 m	187.24°	-60.57°	185.9 m	187.21°	-60.55°	189.0 m	187.04°	-60.65°	192.0 m	186.82°	-60.7°
195.1 m	186.51°	-60.84°	198.1 m	186.89°	-60.88°	201.2 m	186°	-60.89°	204.2 m	186.44°	-61.05°
207.3 m	186.81°	-61.04°	210.3 m	186.51°	-61.02°	213.4 m	186.54°	-61.12°	216.4 m	186.77°	-61.13°
219.5 m	186.88°	-61.17°	222.5 m	187.53°	-61.39°	225.6 m	187.04°	-61.22°	228.6 m	186.65°	-61.2°

Kemess Bear 2005 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KB-05-14***

Northing:	7754.98	**Total Depth:**	396.2 **m**
Easting:	11203.1	**Azimuth:**	186°
Elevation:	1292	**Dip:**	-60°

Geologist: Brad McKinley

Drilled: 5/31/2005

Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip
			231.6 m	186.29°	-61.22°	234.7 m	186.21°	-61.17°	237.7 m	186.3°	-61.22°
240.8 m	186.46°	-61.26°	243.8 m	187.1°	-61.4°	246.9 m	187.42°	-61.49°	249.9 m	190.75°	-61.42°
253.0 m	187.45°	-61.41°	256.0 m	187.68°	-61.51°	259.1 m	187.39°	-61.49°	262.1 m	187.29°	-61.36°
265.2 m	187.19°	-61.46°	268.2 m	186.74°	-61.55°	271.3 m	187.39°	-61.31°	274.3 m	187.92°	-61.59°
277.4 m	187.18°	-61.6°	280.4 m	187.32°	-61.57°	283.5 m	188.18°	-61.52°	286.5 m	188.36°	-61.41°
289.6 m	188.48°	-61.5°	292.6 m	188.63°	-61.46°	295.7 m	188.12°	-61.59°	298.7 m	188.05°	-61.63°
301.8 m	189.09°	-61.51°	304.8 m	189.63°	-61.65°	307.8 m	190.06°	-61.56°	310.9 m	190.44°	-61.51°
313.9 m	191.02°	-61.67°	317.0 m	190.72°	-61.45°	320.0 m	190.16°	-61.46°	323.1 m	190.46°	-61.25°
326.1 m	191.1°	-61.01°	329.2 m	192.48°	-61.42°	332.2 m	192.14°	-61.05°	335.3 m	192.49°	-61°
338.3 m	193.54°	-60.86°	341.4 m	195.73°	-60.71°	344.4 m	194.33°	-60.76°	347.5 m	196.41°	-60.63°
350.5 m	193.96°	-60.61°	353.6 m	194.89°	-60.64°	356.6 m	194.28°	-60.66°	359.7 m	195.41°	-60.43°
362.7 m	192.83°	-60.56°	365.8 m	202.12°	-60.35°	368.8 m	196.21°	-60.33°	371.9 m	197.34°	-60.2°
374.9 m	197.13°	-60.27°	381.0 m	196.79°	-60.06°	384.0 m	196.6°	-59.97°	387.1 m	196.33°	-59.58°
390.1 m	203.23°	-59.9°	393.2 m	197.17°	-59.81°						

Kemess Bear 2005 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KB-05-15***

Northing:	7717.71	**Total Depth:**	359.7 **m**
Easting:	12220.6	**Azimuth:**	186°
Elevation:	1303	**Dip:**	-70°

Geologist: Brad McKinley

Drilled: 6/3/2005

Survey Depth	Azimuth	Dip	26.8 m	183.61°	-69.34°	29.9 m	184.64°	-69.47°	32.9 m	183.89°	-69.29°
36.0 m	183.64°	-69.27°	39.0 m	183.54°	-69.09°	42.1 m	183.65°	-69.16°	45.1 m	183.09°	-69.23°
48.2 m	183.19°	-69.2°	51.2 m	184.39°	-69.25°	54.3 m	183.21°	-69.3°	57.3 m	183.32°	-69.32°
60.4 m	182.99°	-69.38°	63.4 m	183.16°	-69.42°	66.4 m	183.51°	-69.45°	69.5 m	183.18°	-69.45°
72.5 m	182.94°	-69.51°	75.6 m	186.73°	-69.58°	78.6 m	184.83°	-69.6°	81.7 m	182.81°	-69.68°
84.7 m	187.04°	-69.7°	87.8 m	182.9°	-69.71°	90.8 m	182.51°	-69.76°	93.9 m	183°	-69.86°
96.9 m	182.86°	-69.87°	100.0 m	183.4°	-69.91°	103.0 m	183.78°	-70.02°	106.1 m	183.34°	-70.03°
109.1 m	184.08°	-69.99°	112.2 m	185.41°	-70.04°	115.2 m	184.13°	-69.83°	118.3 m	184.84°	-70.18°
121.3 m	184.18°	-70.19°	124.4 m	184.97°	-70.21°	127.4 m	185.61°	-70.26°	130.5 m	185.34°	-70.27°
133.5 m	185.16°	-70.31°	136.6 m	185.22°	-70.32°	139.6 m	185.47°	-70.35°	142.6 m	185.45°	-70.42°
145.7 m	185.89°	-70.41°	148.7 m	184.94°	-70.39°	151.8 m	185.44°	-70.45°	154.8 m	185.27°	-70.49°
157.9 m	185.23°	-70.52°	160.9 m	186.11°	-70.53°	164.0 m	185.57°	-70.52°	167.0 m	186.18°	-70.58°
170.1 m	185.89°	-70.57°	173.1 m	185.45°	-70.55°	176.2 m	186.26°	-70.67°	179.2 m	186.57°	-70.72°
182.3 m	186.74°	-70.73°	185.3 m	186.34°	-70.81°	188.4 m	186.94°	-70.8°	191.4 m	187.38°	-70.85°
194.5 m	186.8°	-70.79°	197.5 m	186.67°	-70.77°	200.6 m	187.21°	-70.86°	203.6 m	186.79°	-70.84°

Kemess Bear 2005 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KB-05-15***

Northing: 7717.71 **Total Depth:** 359.7 **m**

Easting: 12220.6 **Azimuth:** 186°

Elevation: 1303 **Dip:** -70°

Geologist: Brad McKinley

Drilled: 6/3/2005

Survey Depth	Azimuth	Dip
206.7 m	186.88°	-70.88°
209.7 m	187.45°	-70.96°
212.8 m	187.45°	-71.05°
215.8 m	187.05°	-71°
218.8 m	196.05°	-70.49°
221.9 m	187.72°	-71.08°
224.9 m	187.25°	-71.08°
228.0 m	187.7°	-71.07°
231.0 m	188.8°	-71.13°
234.1 m	189.87°	-71.1°
237.1 m	188.18°	-71.11°
240.2 m	187.85°	-71.07°
243.2 m	187.73°	-71.06°
246.3 m	189.1°	-71.08°
249.3 m	187.84°	-71.15°
252.4 m	188.48°	-71.14°
255.4 m	187.92°	-71.2°
258.5 m	187.6°	-71.24°
261.5 m	188.35°	-71.25°
264.6 m	188.55°	-71.29°
267.6 m	188.3°	-71.33°
270.7 m	187.84°	-71.34°
273.7 m	187.99°	-71.39°
276.8 m	189.53°	-71.39°
279.8 m	190.31°	-71.44°
282.9 m	189.42°	-71.56°
285.9 m	187.6°	-71.51°
289.0 m	189.42°	-71.45°
292.0 m	189.39°	-71.46°
295.0 m	189.77°	-71.41°
298.1 m	189.81°	-71.39°
301.1 m	190.02°	-71.4°
304.2 m	190°	-71.38°
307.2 m	190.2°	-71.38°
310.3 m	190.39°	-71.4°
313.3 m	190.21°	-71.53°
316.4 m	190.61°	-71.43°
319.4 m	190.74°	-71.4°
322.5 m	190.88°	-71.46°
325.5 m	191.63°	-71.49°
328.6 m	190.81°	-71.48°
331.6 m	191.04°	-71.5°
334.7 m	190.82°	-71.47°
337.7 m	190.93°	-71.47°
340.8 m	191.51°	-71.49°
343.8 m	191.9°	-71.49°
346.9 m	191.39°	-71.51°
349.9 m	191.64°	-71.5°
353.0 m	191.63°	-71.5°
356.0 m	191.85°	-71.53°

Kemess Bear 2005 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KB-05-16***

Northing:	7321.18	**Total Depth:**	378 **m**
Easting:	12656	**Azimuth:**	180°
Elevation:	1345	**Dip:**	-88°

Geologist: Mark Rein

Drilled: 6/6/2005

Survey Depth	Azimuth	Dip									
			26.8 m	119.19°	-87.9°	29.9 m	117.92°	-87.83°	32.9 m	136.9°	-87.96°
36.0 m	128.1°	-88.27°	39.0 m	128.49°	-88.34°	42.1 m	135.42°	-88.08°	45.1 m	135.66°	-88.24°
48.2 m	124.87°	-88.59°	54.3 m	136.86°	-88.13°	57.3 m	136.41°	-88.16°	60.4 m	136.92°	-88.27°
63.4 m	139.67°	-88.33°	66.4 m	136.86°	-88.6°	69.5 m	138.79°	-88.5°	72.5 m	132.87°	-88.51°
75.6 m	137.15°	-88.53°	78.6 m	131.75°	-88.6°	81.7 m	125.3°	-88.56°	84.7 m	125.4°	-88.56°
87.8 m	118.7°	-88.52°	90.8 m	126.43°	-88.05°	93.9 m	132.55°	-88.03°	96.9 m	134.68°	-88.52°
100.0 m	124.05°	-88.46°	103.0 m	122.77°	-88.23°	106.1 m	125.31°	-88.38°	109.1 m	125.14°	-88.38°
112.2 m	126.15°	-88.33°	115.2 m	123.84°	-88.31°	118.3 m	124.81°	-88.15°	121.3 m	126.13°	-88.14°
124.4 m	126.86°	-88.09°	127.4 m	127.9°	-88.06°	130.5 m	126.49°	-88.07°	133.5 m	128.75°	-88°
136.6 m	130.07°	-88.04°	139.6 m	129.82°	-88°	142.6 m	133.03°	-87.99°	145.7 m	135.38°	-88.01°
148.7 m	137.54°	-88.12°	151.8 m	137.32°	-88.06°	154.8 m	141.8°	-88.11°	157.9 m	141.86°	-88.09°
160.9 m	140.26°	-88.14°	164.0 m	141.41°	-88.25°	167.0 m	141.62°	-88.26°	170.1 m	137.46°	-88.65°
173.1 m	135.62°	-88.46°	176.2 m	128.86°	-88.4°	179.2 m	133.52°	-88.12°	182.3 m	135.83°	-88.11°
185.3 m	137.18°	-88.11°	188.4 m	136.31°	-88.13°	191.4 m	139.02°	-88.15°	194.5 m	136.55°	-88.18°
197.5 m	140.62°	-88.25°	200.6 m	138.98°	-88.31°	203.6 m	138.49°	-88.32°	206.7 m	139.51°	-88.38°

Kemess Bear 2005 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KB-05-16***

Northing:	7321.18	**Total Depth:**	378 **m**
Easting:	12656	**Azimuth:**	180°
Elevation:	1345	**Dip:**	-88°

Geologist: Mark Rein

Drilled: 6/6/2005

Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip	Survey Depth	Azimuth	Dip
			209.7 m	137.54°	-88.4°	212.8 m	138.27°	-88.45°	215.8 m	134.19°	-88.41°
218.8 m	134.58°	-88.34°	221.9 m	136.53°	-88.31°	224.9 m	140.39°	-88.23°	228.0 m	140.97°	-88.42°
234.1 m	140.27°	-88.29°	237.1 m	139.81°	-88.31°	240.2 m	140.61°	-88.42°	243.2 m	138.5°	-88.35°
246.3 m	138.25°	-88.39°	249.3 m	140.27°	-88.28°	252.4 m	142.27°	-88.33°	258.5 m	143.57°	-88.28°
261.5 m	142.51°	-88.4°	264.6 m	144.31°	-88.39°	267.6 m	142.87°	-88.36°	270.7 m	145.44°	-88.35°
273.7 m	144.5°	-88.31°	276.8 m	145.89°	-88.41°	279.8 m	148.12°	-88.39°	282.9 m	145.08°	-88.39°
285.9 m	141.29°	-88.34°	289.0 m	152.92°	-88.31°	292.0 m	151.47°	-88.43°	295.0 m	146.15°	-88.5°
298.1 m	151.36°	-88.47°	301.1 m	147.02°	-88.44°	304.2 m	153.03°	-88.43°	307.2 m	154.68°	-88.48°
310.3 m	152.49°	-88.53°	313.3 m	149.09°	-88.5°	316.4 m	149.96°	-88.44°	319.4 m	159.9°	-88.47°
322.5 m	153.33°	-88.57°	325.5 m	149.29°	-88.54°	328.6 m	148.69°	-88.41°	331.6 m	153.59°	-88.51°
334.7 m	148.37°	-88.61°	337.7 m	147.16°	-88.51°	340.8 m	155.57°	-88.52°	343.8 m	153.36°	-88.63°
346.9 m	146.86°	-88.55°	349.9 m	144.63°	-88.52°	353.0 m	159.56°	-88.45°	356.0 m	156.88°	-88.58°
359.1 m	151.5°	-88.75°	362.1 m	149.04°	-88.49°	365.2 m	160.81°	-88.57°	368.2 m	150.51°	-88.65°
371.2 m	152.68°	-88.49°									

Kemess Bear 2005 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KB-05-17***

Northing:	5841	**Total Depth:**	384 **m**
Easting:	9218	**Azimuth:**	0°
Elevation:	1300	**Dip:**	-90°

Geologist: Mark Rein

Drilled: 6/11/2005

Survey Depth	Azimuth	Dip									
			27.4 m	152.96°	-87.88°	30.5 m	152.29°	-87.94°	33.5 m	152.15°	-87.97°
36.6 m	147.11°	-87.94°	39.6 m	151.32°	-87.66°	42.7 m	140.98°	-87.83°	45.7 m	141.64°	-87.6°
48.8 m	142.26°	-87.6°	51.8 m	142.24°	-87.57°	54.9 m	140.53°	-87.58°	57.9 m	140.31°	-87.52°
61.0 m	140.05°	-87.48°	64.0 m	139.69°	-87.45°	67.1 m	139.34°	-87.42°	70.1 m	137.97°	-87.46°
73.2 m	137.66°	-87.39°	76.2 m	137.55°	-87.33°	79.2 m	138.07°	-87.35°	82.3 m	139.07°	-87.33°
85.3 m	138.35°	-87.39°	88.4 m	137.11°	-87.38°	91.4 m	137.31°	-87.37°	94.5 m	136.43°	-87.3°
97.5 m	136.74°	-87.28°	100.6 m	134.78°	-87.3°	103.6 m	134.26°	-87.34°	106.7 m	134.74°	-87.34°
109.7 m	134.57°	-87.33°	112.8 m	133.64°	-87.35°	115.8 m	133.57°	-87.31°	118.9 m	132.6°	-87.29°
121.9 m	133.6°	-87.29°	125.0 m	131.83°	-87.36°	128.0 m	133.65°	-87.42°	131.1 m	132.76°	-87.47°
134.1 m	132.68°	-87.54°	137.2 m	132.73°	-87.57°	140.2 m	135.6°	-87.6°	143.3 m	136.42°	-87.69°
146.3 m	138.23°	-87.79°	149.4 m	135.7°	-87.88°	152.4 m	139.22°	-87.87°	155.4 m	141°	-87.86°
158.5 m	137.15°	-87.88°	161.5 m	136.4°	-87.83°	164.6 m	138.51°	-87.81°	167.6 m	140.58°	-87.84°
170.7 m	141.68°	-87.84°	173.7 m	140.66°	-87.8°	176.8 m	139.7°	-87.82°	179.8 m	139.22°	-87.85°
182.9 m	136.78°	-87.86°	185.9 m	136.86°	-87.85°	189.0 m	136.91°	-87.88°	192.0 m	136.79°	-87.94°
195.1 m	136.84°	-87.9°	198.1 m	132.75°	-87.91°	201.2 m	137.25°	-87.85°	204.2 m	136.32°	-87.77°

Kemess Bear 2005 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KB-05-17***

Northing:	5841	**Total Depth:**	384 **m**
Easting:	9218	**Azimuth:**	0°
Elevation:	1300	**Dip:**	-90°

Geologist: Mark Rein

Drilled: 6/11/2005

Survey Depth	Azimuth	Dip									
			207.3 m	133.44°	-87.83°	210.3 m	132.86°	-87.78°	213.4 m	131.62°	-87.78°
216.4 m	131.51°	-87.83°	219.5 m	130.2°	-87.78°	222.5 m	128.41°	-87.84°	225.6 m	131.37°	-87.77°
228.6 m	132.23°	-87.74°	231.6 m	132.34°	-87.71°	234.7 m	133.4°	-87.68°	237.7 m	134.51°	-87.62°
240.8 m	135.11°	-87.63°	243.8 m	135.41°	-87.61°	246.9 m	136.65°	-87.6°	249.9 m	136.15°	-87.67°
253.0 m	136.71°	-87.64°	256.0 m	136.22°	-87.63°	259.1 m	138.02°	-87.55°	262.1 m	139.29°	-87.5°
265.2 m	142.5°	-87.45°	268.2 m	144.2°	-87.44°	271.3 m	148.84°	-87.43°	274.3 m	150.78°	-87.42°
277.4 m	153.2°	-87.52°	280.4 m	154.67°	-87.58°	283.5 m	153.07°	-87.75°	286.5 m	151.79°	-87.83°
289.6 m	149.77°	-87.79°	292.6 m	150.23°	-87.78°	295.7 m	146.67°	-87.79°	298.7 m	142.94°	-87.72°
301.8 m	141.83°	-87.65°	304.8 m	142.4°	-87.63°	307.8 m	143.33°	-87.53°	310.9 m	144.95°	-87.43°
313.9 m	145.43°	-87.44°	317.0 m	144.68°	-87.47°	320.0 m	144.68°	-87.42°	323.1 m	145.57°	-87.38°
326.1 m	145.4°	-87.24°	329.2 m	145.03°	-87.19°	332.2 m	144.6°	-87.17°	335.3 m	146.72°	-87.13°
338.3 m	142.29°	-87.13°	341.4 m	147.33°	-87.09°	344.4 m	145.84°	-87.12°	347.5 m	145.54°	-87.11°
350.5 m	146.89°	-87.08°	353.6 m	146.69°	-86.94°	356.6 m	146.08°	-86.99°	359.7 m	146.58°	-86.93°
362.7 m	145.83°	-86.96°	365.8 m	146.73°	-86.95°	368.8 m	144.43°	-86.95°	371.9 m	144.64°	-87°
374.9 m	145.63°	-87.09°	378.0 m	145.16°	-87.1°	381.0 m	145.02°	-87.15°	384.0 m	143.59°	-87.18°

Kemess Bear 2005 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: ***KB-05-17***

Northing:	5841	**Total Depth:**	384 **m**
Easting:	9218	**Azimuth:**	0°
Elevation:	1300	**Dip:**	-90°

Geologist: Mark Rein

Drilled: 6/11/2005

Survey Depth	Azimuth	Dip
387.1 m	138.57°	-87.23°
390.1 m	140.16°	-87.26°

KB-05-01

From (m)	To (m)	Group*	Rock Type	Comments
0.0	15.2		CASING	
15.2	70.4	H	HETEROLITHIC CONGLOMERATE	Framework supported conglomerate composed of 60% granite-diorite well-rounded clasts to 20cm in diameter. Also 20% basalt-andesite, likely of Takla origin, locally feldspar +/- augite porphyritic. Minor chert fragments, glassy fragments, and tuff lenses. Matrix composed of sandy textured small,<1mm lithic fragments including 0.1-0.5mm quartz eyes. While typically diagnostic if Hazleton Group epiclastics, these quartz eyes may simply be remants from intrusive fragments. Local calcite in matrix. Majority of volcanic fragments have orange-brown oxidised rind up to 1cm thick. Majority of intrusive clasts pink-orange-brown tinted by oxidation. Composite Sampled: last 15cm of each row in the box is sampled whole in a composite which represents the entire box.
70.4	75.0	H	HETEROLITHIC TUFF	This and next sample interval form one continuous graded bed. This interval consists of silt to mud sized tuffaceuos material, partially welded and locally altered to sericite and chlorite.
75.0	82.5	H	HETEROLITHIC VOLCANIC BRECCIA	Similar to above conglomerate but with more angular clasts, lower granite content (30%) and 50% andesite clasts to 30cm very angular and often rimmed by chlorite. Local coliform textures.
82.5	202.0	T	ANDESITE VOLCANIC BRECCIA	Intermediate volcanic blocky fragmental autobreccia. Contacts diffused, blocks notable by textural changes ie sericitised fsp content, presence of rare augite phenos. Sericite replaces 0.5mm anhedral felspars to 30%, resulting in amygdular texture. Pyrite in whispy stringers at low angle to core axis, and as fine grained disseminations. Calcite, chlorite and gypsum also in minor low angle stringers.
202.0	230.0	T	ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA	Zone where majority of blocks in volcanic breccia contain up to 5% anhedral Augite phenocrysts to 4mm, 50% altered to chlorite.
230.0	250.0	T	ANDESITE VOLCANIC BRECCIA	
250.0	254.0	T	ANDESITE TUFF	Finer Grained unit similar to matrix of Volcanic Breccia above. Mottling stems from faint banding
254.0	257.2	T	ANDESITE VOLCANIC BRECCIA	

Groups: A=Asitka, B=Black Lake Intrusives, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Dykes, S=Sustut, T=Takla

KB-05-01

From (m)	To (m)	Group*	Rock Type	Comments
257.2	261.0	T	BASALT FLOW	Mainly massive black volcanic with .5mm augite phenos partially chloritized. Local patchy green epidote, calcite. Mild silicification. Significant increase in magnetism.
261.0	275.0	T	ANDESITE VOLCANIC BRECCIA	Small sections magnetic basalt
275.0	289.9	T	BASALT FLOW	
289.9	296.0	T	ANDESITE TUFF	Similar to above tuff horizon but with greater fragmental content (to 30%) and 10% lapilli to 1cm, strong local concentrations.
296.0	337.4	T	ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA	

**Groups: A=Asitka, B=Black Lake Intrusives, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Dykes, S=Sustut, T=Takla*

KB-05-02

From (m)	To (m)	Group*	Rock Type	Comments
0.0	9.1		CASING	
9.1	22.0	H	HETEROLITHIC CONGLOMERATE	Clast supported conglomerate composed of 60% well rounded Granite/diorite clasts up to 20cm in diameter. Andesite/basalt clasts up to 5 cm in diameter make up about 20% of the clasts. Matrix is made up of fine to coarse lithic fragment. Some of the lithic fragments may be remnants of intrusive clasts. Also local calcite in the matrix. Most of the clasts have a brown oxidized rind around them. Composite sampled for the first two boxes-last 15cm of theends of each row as a representative of the whole sample.
22.0	26.5	H	HETEROLITHIC TUFF	Graded bed with fine grained silt sized particle in a welded tuff. Locally altered to sericite and chlorite with coarse lithic fragments. Sampled from block to block due to lost core.
26.5	117.0	T	ANDESITE VOLCANIC BRECCIA	Intermediate volcanic fragmental autobreccia. Very fine grained groundmass with feldspar phenocrysts. Contacts are graded and determined by textural changes such as sericitized phenocrysts, presence of chlorite or rare augite phenocrysts. Pyrite occurs as very fine disseminations throughout or small low angle veinlets. Pyrite replaces chlorite in phenocryts and occurs with calcite in cavities of tuffaceous sections. Coarser grained pyrite occurs with sericite infilling in faults.
117.0	262.6	T	ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA	Graded contact to Andesitic Augite Porphyry. Majority of blocks in volcanic breccia contain up to 5% anhedral Augite phenocrysts to 4mm, 50% altered to chlorite.
262.6	267.5	T	BASALT VOLCANIC BRECCIA	Dark Grey basalt unit with augite phenocryst ~5mm in diameter. Stockworked with calcite veins and epidote zoning around calcite phenocrysts.
267.5	271.0	T	ANDESITE FAULT ZONE	Faulted zone of Intermediate volcanic blocky fragmental autobreccia. Same as described above.
271.0	303.8	T	ANDESITE VOLCANIC BRECCIA	Intermediate volcanic blocky fragmental autobreccia. Same as described above.

Groups: A=Asitka, B=Black Lake Intrusives, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Dykes, S=Sustut, T=Takla

KB-05-02

From (m)	To (m)	Group*	Rock Type	Comments
303.8	305.7	T	ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA	
305.7	313.8	T	ANDESITE VOLCANIC BRECCIA	Intermediate volcanic blocky fragmental autobreccia. Same as described above.
313.8	325.0	T	ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA	Zone where majority of blocks in volcanic breccia contain up to 5% anhedral Augite phenocrysts to 4mm, 50% altered to chlorite.
325.0	327.0	T	ANDESITE VOLCANIC BRECCIA	
327.0	351.4	T	ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA	

***Groups: A=Asitka, B=Black Lake Intrusives, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Dykes, S=Sustut, T=Takla**

KB-05-03

From (m)	To (m)	Group*	Rock Type	Comments
0.0	6.1		CASING	
6.1	123.1	H	HETEROLITHIC CONGLOMERATE	Framework supported conglomerate composed of 60% granite-diorite well-rounded clasts to 20cm in diameter. Also 20% basalt-andesite, likely of Takla origin, locally feldspar +/- augite porphyritic. Minor chert fragments, glassy fragments, and tuff lenses. Matrix composed of sandy textured small,<1mm lithic fragments including 0.1-0.5mm quartz eyes. While typically diagnostic if Hazleton Group epiclastics, these quartz eyes may simply be remants from intrusive fragments. Local calcite in matrix. Majority of volcanic fragments have orange-brown oxidised rind up to 1cm thick. Majority of intrusive clasts pink-orange-brown tinted by oxidation. Composite Sampled: last 15cm of each row in the box is sampled whole in a composite which represents the entire box.
123.1	151.0	T	ANDESITE VOLCANIC BRECCIA	Intermediate volcanic blocky fragmental autobreccia. Contacts diffused, blocks notable by textural changes ie. sericitised feldspar content, presence of rare augite phenos. Sericite replaces 0.5mm anhedral felspars to 30%, resulting in amygdular texture. Pyrite in faults and rare veins also as fine grained disseminations. Calcite, chlorite and gypsum also in minor low angle stringers. Rare clasts may be granite, but are altered. Significant fiammi-rich intersections.
151.0	165.0	T	ANDESITE TUFF	Similar to matrix of a bove breccia. Fiammi rich fine grained, banded ash tuff with up to 30% lithic fragments less than 1cm. 10% anhedral zeolites? Soft white mineral.
165.0	169.3	T	ANDESITE VOLCANIC BRECCIA	Intermediate volcanic blocky fragmental autobreccia. Same as described above.
169.3	282.6	T	ANDESITIC AUGITE PORPHYRY FLOW	Zone where majority of blocks in volcanic breccia contain up to 5% anhedral Augite phenocrysts to 4mm, 50% altered to chlorite. Disseminated pyrite clots to 3mm. Locally intense calcite stockworking. Augite phenos to 2mm mostly altered to chlorite.
282.6	314.0	T	ANDESITE TUFF	Similar to matrix of a bove breccia. Fiammi rich fine grained, banded ash tuff with up to 30% lithic fragments less than 1cm.
314.0	345.6	T	ANDESITE VOLCANIC BRECCIA	Intermediate volcanic blocky fragmental autobreccia. Same as described above. This sample: 30 cm magnetite flooded zone, parallel to core axis consisting 30% core width.

Groups: A=Asitka, B=Black Lake Intrusives, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Dykes, S=Sustut, T=Takla

KB-05-04

From (m)	To (m)	Group*	Rock Type	Comments
0.0	30.5		CASING	
30.5	57.4	H	HETEROLITHIC VOLCANIC BRECCIA	Framework supported volcanic breccia comosed of sub-rounded to rounded lithic clasts up to 5 cm. In diameter. Clasts are mainly andesite/basalt with rare intrusive clasts. Groundmass is sandy in texture composed of lithic fragments <1mm in diameter. Sections of dacitic tuff with local glassy textures that are clast free and a local section of a welded dacitic tuff. Local calcite matrix in some sections. Alteration is predominantly oxidized ranging from strong to intense with a few sections having strong propyllitic alteration. Composite Sampled: last 15cm of each row in the box is sampled whole in a composite which represents the entire box.
57.4	63.1	H	HETEROLITHIC TUFF	1.5m section of heavily oxidized clast-free dacitic tuff. Almost glassy in texture.
63.1	167.8	H	HETEROLITHIC VOLCANIC BRECCIA	Framework supported volcanic breccia. Same as described above.
167.8	173.4	H	HETEROLITHIC TUFF	Same as described above.
173.4	206.8	H	HETEROLITHIC VOLCANIC BRECCIA	Same as described above.
206.8	373.1	H	HETEROLITHIC CONGLOMERATE	Volcanic heterolithic changes to heterolithic conglomerate. Framework supported made up of ~70% well rounded intrusive (granite) clasts and 20% andesitic/basaltic clasts, likely of Tackla origin. Minor clasts of bladed feldspar porphyry and chert as well. Local infilling of calcite around clasts Composite sampling of the last 10cm of each row continues.

*Groups: A=Asitka, B=Black Lake Intrusives, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Dykes, S=Sustut, T=Takla

KB-05-05

From (m)	To (m)	Group*	Rock Type	Comments
0.0	30.5		CASING	
30.5	217.0	H	HETEROLITHIC CONGLOMERATE	Framework supported Conglomerate made up of ~70% well rounded intrusive (granite) clasts and 20% andesitic/basaltic clasts, likely of Tackla origin. Minor clasts of bladed feldspar porphyry and chert as well. Local infilling of calcite around clasts. Alteration is predominantly stong oxidization with a section of strong propyllitic alteration near the bottom of the unit. Composite Sampled: last 15cm of each row in the box is sampled whole in a composite which represents the entire box.
217.0	223.0	T	ANDESITE TUFF	Intermediate volcanic autobreccia. Graded contacts defined by textural changes from poorly bedded to mottled with augite-chlorite phenocrysts. At depth, calcite replaces anhedral feldspar phenocrysts. Deeper sections are stockworked with calite and zeolite. Pyrite occurs as very fine disseminations throughout and in rare high angle veins with calcite. Alteration is phyllic at shallower depths and becomes increasingly silicic with depth.
223.0	261.0	T	ANDESITIC AUGITE PORPHYRY FLOW	Majority of blocks in volcanic breccia contain up to 5% anhedral Augite phenocrysts to 4mm, 50% altered to chlorite.
261.0	325.0	T	ANDESITIC AUGITE PORPHYRY TUFF	Contains up to 5% anhedral Augite phenocrysts to 4mm, 50% altered to chlorite.
325.0	341.5	T	ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA	Zone where majority of blocks in volcanic breccia contain up to 5% anhedral Augite phenocrysts to 4mm, 50% altered to chlorite. Local section with mottled calcite replacing augite.
341.5	345.2	T	BASALT FLOW	Homogeneous basalt flow. Aphanitic in texture with rare pyrite and high primary magnetite. Pyrite occurs as very fine grains in the groundmass.
345.2	352.7	T	ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA	Similar to above.

***Groups: A=Asitka, B=Black Lake Intrusives, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Dykes, S=Sustut, T=Takla**

KB-05-06

From (m)	To (m)	Group*	Rock Type	Comments
0.0	21.3		CASING	
21.3	41.5		OVERBURDEN	
41.5	162.0	H	HETEROLITHIC CONGLOMERATE	Framework supported Conglomerate made up of ~70% well rounded intrusive (granite) clasts and 20% andesitic/basaltic clasts, likely of Tackla origin. Minor clasts of bladed feldspar porphyry and chert as well. Local infilling of calcite around clasts. Alteration is predominantly stong oxidization.
162.0	186.0	T	ANDESITE FLOW	Intermediate volcanic autobreccia. Graded contacts defined by textural changes from porphyitic to mottled with augite-chlorite phenocrysts. Local vessicular sections with the vessicles infilled with calcite and pyrite. Local sections are stockworked with calite and also some local mosaic textures with cacite surrounding angular clasts.. Pyrite occurs as very fine disseminations as well as coarse grains in veins and on fracture surfaces. Alteration is phyllic at shallower depths. Graded contact. Sheared section rich in sericite and calcite followed by broken up dacite.
186.0	188.0	T	ANDESITE VOLCANIC BRECCIA	Mottled clasts of Andesitic Augite Porphyry in an andesite ground mass.
188.0	203.7	T	BASALT FLOW	Contact with basalt with pophyritic felpspar phenocrysts, partly replaced with calite and pyrite.
203.7	212.4	T	ANDESITE VOLCANIC BRECCIA	
212.4	215.5	T	BASALT FLOW	Sharp contact with porphyritic basalt. Feldspar phenocrysts partly replaced by calcite and pyrite.
215.5	235.0	T	ANDESITE VOLCANIC BRECCIA	Mosaic texture with calcite infilling the voids in the structure.
235.0	236.3	T	BASALT DYKE	Sharp contact between basalt and andesite. Pyrite veins with intense phyllic alteration halos.
236.3	251.1	T	ANDESITE VOLCANIC BRECCIA	Sharp contact between basalt dyke and andesite.

**Groups: A=Asitka, B=Black Lake Intrusives, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Dykes, S=Sustut, T=Takla*

KB-05-06

From (m)	To (m)	Group*	Rock Type	Comments
251.1	252.0	T	ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA	Intermediate volcanic blocky fragmental autobreccia. Majority of blocks in volcanic breccia contain up to 5% anhedral Augite phenocrysts to 4mm, 50% altered to chlorite.
252.0	254.5	T	BASALT VOLCANIC BRECCIA	Same as described above.

Groups: A=Asitka, B=Black Lake Intrusives, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Dykes, S=Sustut, T=Takla

KB-05-07

From (m)	To (m)	Group*	Rock Type	Comments
0.0	36.6		CASING	
36.6	50.9		OVERBURDEN	
50.9	65.0	T	BASALT FLOW	Homogeneous basalt flow. Aphanitic in texture.
65.0	78.7	T	ANDESITE VOLCANIC BRECCIA	Pyrite-alunite(?) vein.
78.7	80.3	T	QUARTZ VEIN	Massive quartz-apatite vein with alunite.
80.3	104.0	T	ANDESITE VOLCANIC BRECCIA	Appearance of calcite.
104.0	110.2	T	BASALT VOLCANIC BRECCIA	Graded contact between andesite and basalt.
110.2	111.4	T	ANDESITE VOLCANIC BRECCIA	Intermediate volcanic blocky fragmental autobreccia.
111.4	113.0	T	BASALT VOLCANIC BRECCIA	Sharp contact between basalt and andesite. Pyrite veinlets all trending parallel to each other at 30 degrees.
113.0	128.8	T	ANDESITE VOLCANIC BRECCIA	
128.8	131.0	T	BASALT VOLCANIC BRECCIA	Graded contact from andesite to asalt. Several pyrite veinlets similar to above.
131.0	132.4	T	QUARTZ VEIN	Large quartz vein with apatite crystals at 25 degrees to core axis. Well formed, translucent, apple green in color. Local zones of massive pyrite in the vein.
132.4	148.0	T	ANDESITE VOLCANIC BRECCIA	Same as described above.
148.0	150.0	T	BASALT FLOW	Sharp contact between andesite and basalt. Same as described above.
150.0	151.7	T	ANDESITE FLOW	Faulted contact between basalt and andesite. Same as described above.

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KB-05-07

From (m)	To (m)	Group*	Rock Type	Comments
151.7	161.5	T	BASALT FLOW	Several magnetite veinlets near contact between andesite and basalt. Same as described above.
161.5	164.0	T	ANDESITE FLOW	Same as described above.
164.0	254.0	T	BASALT FLOW	Broken-up section. Same as described above.
254.0	256.0	T	BASALT FAULT ZONE	20cm gouge, 50 cm rubble. 30cm intense zeolite stockwork zone, mosaic texture.
256.0	348.4	T	BASALT FLOW	Same as described above.

Groups: A=Asitka, B=Black Lake Intrusives, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Dykes, S=Sustut, T=Takla

KB-05-08

From (m)	To (m)	Group*	Rock Type	Comments
0.0	4.6		CASING	
4.6	20.2	T	ANDESITE FLOW	Fine to medium grained andesite flow with mottled sericite phenocrysts that is from the Tackla group. Alteration is moderate propyllitic and quartz/sericite/pyrite. Veining is primarily low angle Quartz/Calcite with minor chlorite. Pyrite occurs as fine grained disseminations throughout the unit and as blebs in calcite/quartz veins. Rare chalcopyrite occurs as small blebs in calcite/quartz veins.
20.2	24.0	B	MONZONITE DYKE	Sharp contact between Tackla andesite and a porphoritic monzonite dyke. Fine to coarse grained quartz-feldspar monzonite from the Black Lake intrusives. Mostly made up of quartz, feldspar and clorite phenocryts up to 5mm in diameter. Some of the chlorite phenocrysts have been partially altered to pyrite. Alteration is moderate to strong potassic (KQC) and moderate to strong propyllitic. Veining is predominantly low-mid angle quartz/calcite/chlorite. Several basaltic dykes cross cut the intrusion typically at angles around 40 degrees. Pyrite occurs as fine grained disseminations in chlorite and in coarser grains in the groundmass with grains up to 2mm in diameter. Rare chalcopyrite occurs in calcite/quartz veins as small blebs. The frequency of veins containing chalcopyrite was very low with chacopyrite only appearing in a few local zones.
24.0	29.0	T	ANDESITE FLOW	Fine to medium grained andesite flow with mottled sericite phenocrysts that is from the Tackla group. Alteration is moderate propyllitic and quartz/sericite/pyrite. Veining is primarily low angle Quartz/Calcite with minor chlorite. Pyrite occurs as fine grained disseminations throughout the unit and as blebs in calcite/quartz veins. Rare chalcopyrite occurs as small blebs in calcite/quartz veins.
29.0	36.0	B	MONZONITE DYKE	Fine to coarse grained quartz-feldspar monzonite from the Black Lake intrusives. Mostly made up of quartz, feldspar and clorite phenocryts up to 5mm in diameter. Some of the chlorite phenocrysts have been partially altered to pyrite. Alteration is moderate to strong potassic (KQC) and moderate to strong propyllitic. Veining is predominantly low-mid angle quartz/calcite/chlorite. Several basaltic dykes cross cut the intrusion typically at angles around 40 degrees. Pyrite occurs as fine grained disseminations in chlorite and in coarser grains in the groundmass with grains up to 2mm in diameter. Rare chalcopyrite occurs in calcite/quartz veins as small blebs. The frequency of veins containing chalcopyrite was very low with chacopyrite only appearing in a few local zones.

**Groups: A=Asitka, B=Black Lake Intrusives, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Dykes, S=Sustut, T=Takla*

KB-05-08

From (m)	To (m)	Group*	Rock Type	Comments
36.0	54.6	T	ANDESITE FLOW	Fine to medium grained andesite flow with mottled sericite phenocrysts that is from the Tackla group. Alteration is moderate propyllitic and quartz/sericite/pyrite. Veining is primarily low angle Quartz/Calcite with minor chlorite. Pyrite occurs as fine grained disseminations throughout the unit and as blebs in calcite/quartz veins. Rare chalcopyrite occurs as small blebs in calcite/quartz veins.
54.6	56.4	B	MONZONITE DYKE	Contact with porphyritic dyke-similar to above. Fine to coarse grained quartz-feldspar monzonite from the Black Lake intrusives. Mostly made up of quartz, feldspar and clorite phenocryts up to 5mm in diameter. Some of the chlorite phenocrysts have been partially altered to pyrite. Alteration is moderate to strong potassic (KQC) and moderate to strong propyllitic. Veining is predominantly low-mid angle quartz/calcite/chlorite. Several basaltic dykes cross cut the intrusion typically at angles around 40 degrees. Pyrite occurs as fine grained disseminations in chlorite and in coarser grains in the groundmass with grains up to 2mm in diameter. Rare chalcopyrite occurs in calcite/quartz veins as small blebs. The frequency of veins containing chalcopyrite was very low with chacopyrite only appearing in a few local zones.
56.4	58.0	T	ANDESITE FLOW	Fine to medium grained andesite flow with mottled sericite phenocrysts that is from the Tackla group. Alteration is moderate propyllitic and quartz/sericite/pyrite. Veining is primarily low angle Quartz/Calcite with minor chlorite. Pyrite occurs as fine grained disseminations throughout the unit and as blebs in calcite/quartz veins. Rare chalcopyrite occurs as small blebs in calcite/quartz veins.
58.0	60.0	T	ANDESITE FAULT ZONE	Section is a large quartz vein containing chlorite and pyrite. Pyrite occurs as blebs and is fine to medium grained.
60.0	116.4	B	MONZONITE INTRUSIVE	Wispy sericite and large chlorite phenocrysts
116.4	119.3	C	BASALT DYKE	Basaltic dyke stockworked with calcite veinlets. Fine grained with very little or no sulphides and higher MagS readings, typically in the mid 20's.
119.3	139.0	B	MONZONITE INTRUSIVE	
139.0	142.2	C	BASALT DYKE	Basaltic dyke with calcite stockworking. Lower MagS than previous mafic dyke.

Groups: A=Asitka, B=Black Lake Intrusives, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Dykes, S=Sustut, T=Takla

KB-05-08

From (m)	To (m)	Group*	Rock Type	Comments
142.2	162.0	B	MONZONITE INTRUSIVE	
162.0	166.2	B	MONZONITE VEIN	Large quartz vein.
166.2	167.1	C	BASALT DYKE	Stockworked basaltic dyke. Calcite stockworking with no sulphides present.
167.1	182.0	B	MONZONITE INTRUSIVE	Fine to medium grained andesite flow with mottled sericite phenocrysts that is from the Tackla group. Alteration is moderate propyllitic and quartz/sericite/pyrite. Veining is primarily low angle Quartz/Calcite with minor chlorite. Pyrite occurs as fine grained disseminations throughout the unit and as blebs in calcite/quartz veins. Rare chalcopyrite occurs as small blebs in calcite/quartz veins.
182.0	190.0	C	BASALT DYKE	Porphorytic basalt dyke with augite phenocrysts. Low angle calcite veining and pyrite occurs as fine to medium grained disseminations.
190.0	200.5	B	MONZONITE INTRUSIVE	Fine to medium grained andesite flow with mottled sericite phenocrysts that is from the Tackla group. Alteration is moderate propyllitic and quartz/sericite/pyrite. Veining is primarily low angle Quartz/Calcite with minor chlorite. Pyrite occurs as fine grained disseminations throughout the unit and as blebs in calcite/quartz veins. Rare chalcopyrite occurs as small blebs in calcite/quartz veins.
200.5	204.5	C	BASALT DYKE	Stockworked basaltic dyke similar to above.
204.5	222.0	B	MONZONITE INTRUSIVE	Fine to medium grained andesite flow with mottled sericite phenocrysts that is from the Tackla group. Alteration is moderate propyllitic and quartz/sericite/pyrite. Veining is primarily low angle Quartz/Calcite with minor chlorite. Pyrite occurs as fine grained disseminations throughout the unit and as blebs in calcite/quartz veins. Rare chalcopyrite occurs as small blebs in calcite/quartz veins.
222.0	223.2	C	BASALT DYKE	Epidote-rich dyke with epidote veins and epidote phenocrysts.

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KB-05-08

From (m)	To (m)	Group*	Rock Type	Comments
223.2	240.2	B	MONZONITE INTRUSIVE	Fine to medium grained andesite flow with mottled sericite phenocrysts that is from the Tackla group. Alteration is moderate propyllitic and quartz/sericite/pyrite. Veining is primarily low angle Quartz/Calcite with minor chlorite. Pyrite occurs as fine grained disseminations throughout the unit and as blebs in calcite/quartz veins. Rare chalcopyrite occurs as small blebs in calcite/quartz veins.
240.2	242.2	C	BASALT DYKE	Stockworked basaltic dyke similar to dyke at 222.0m-223.2m.
242.2	251.0	B	MONZONITE INTRUSIVE	Epidote-rich dyke with low MagS-similar to epidote-rich dyke above.
251.0	253.2	C	BASALT DYKE	Basaltic dyke. End of hole.

Groups: A=Asitka, B=Black Lake Intrusives, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Dykes, S=Sustut, T=Takla

KB-05-09

From (m)	To (m)	Group*	Rock Type	Comments
0.0	6.1		CASING	Casing
6.1	68.3	T	ANDESITE FLOW	Fine to medium grained volcanic andesite flow(Tackla group). Alteration is moderate quartz/sericite/pyrite with some moderate propyllitic alteration as well. Veining is primarily low-angle quartz/calcite. The unit is faulted in several locations with faults between 40-50 degrees to core axis. Pyrite occurs as fine to medium grained disseminations throughout the groundmass and in fine grained blebs in calcite and quartz veins. Rare chalcopyrite occurs as small blebs in calcite and quartz veins. Broken up core with low recovery. Sampling block to block.

*Groups: A=Asitka, B=Black Lake Intrusives, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Dykes, S=Sustut, T=Takla

KB-05-09

From (m)	To (m)	Group*	Rock Type	Comments
0.0	12.8		CASING	
12.8	48.0	T	ANDESITE FLOW	Fine to medium grained volcanic andesite flow. Alteration is moderate quartz/sericite/pyrite with some moderate propyllitic alteration as well. Veining is primarily low-angle quartz/calcite. The unit is faulted in several locations with faults between 40-50 degrees to core axis. Pyrite occurs as fine to medium grained disseminations throughout the groundmass and in fine grained blebs in calcite and quartz veins. Rare chalcopyrite occurs as small blebs in calcite and quartz veins.
48.0	50.0	T	ANDESITE FAULT ZONE	Heavily faulted section. Faults infilled with sericite and pyrite.
50.0	58.0	T	ANDESITE FLOW	
58.0	60.0	T	ANDESITE FAULT ZONE	
60.0	64.0	T	ANDESITE FLOW	
64.0	68.0	T	ANDESITE FAULT ZONE	
68.0	88.0	T	ANDESITE FLOW	
88.0	97.5	B	MONZONITE INTRUSIVE	Graded contact. Fine to coarse grained feldspar and quartz-rich monzonite with moderate propyllitic alteration. Pyrite replacement ocurring in chlorite phenoliths. Veining is typically high-angled calite and quartz.
97.5	120.0	T	ANDESITE FLOW	Sharp contact between monzonite and Andestie.
120.0	168.0	B	MONZONITE INTRUSIVE	Medium to coarse grained feldspar-rich monzonite. Alteration is predominantly propyllitic switching to KQS at 148m of depth. Veining is low-angle calcite veins and high angle quartz veins. Rare pyrite occurs in chlorite phenocrysts and rarely in Calcite veins.

*Groups: A=Asitka, B=Black Lake Intrusives, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Dykes, S=Sustut, T=Takla

KB-05-10

From (m)	To (m)	Group*	Rock Type	Comments
0.0	67.3		OVERBURDEN	
67.3	121.2	H	HETEROLITHIC CONGLOMERATE	Framework supported Conglomerate from the Hazleton formation made up of ~70% well rounded intrusive (granite) clasts and 20% andesitic/basaltic clasts, likely of Tackla origin. Minor clasts of bladed feldspar porphory and chert as well. Local infilling of calcite around clasts. Alteration is predominantly stong oxidization. Composite Sampled: last 15cm of each row in the box is sampled whole in a composite which represents the entire box.
121.2	155.2	H	CRYSTAL-LITHIC TUFF TUFF	
155.2	166.7	H	CRYSTAL-LITHIC TUFF VOLCANIC BRECCIA	
166.7	244.0	H	CRYSTAL-LITHIC TUFF TUFF	
244.0	246.0	B	MONZONITE DYKE	Porphorytic monzonite dyke.
246.0	283.0	H	CRYSTAL-LITHIC TUFF TUFF	
283.0	353.8	H	DACITE TUFF	Lesser degree of oxidation with higher MagS readings. Gradational contact changing to a dacitic tuff with a finer grained groundmass and less phenocrysts. One small blade of a silver-colored sulphide-arsenopyrite?

*Groups: A=Asitka, B=Black Lake Intrusives, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Dykes, S=Sustut, T=Takla

KB-05-11

From (m)	To (m)	Group*	Rock Type	Comments
0.0	27.4		OVERBURDEN	Fines sampled from base of overburden.
27.4	85.1	H	FELDSPAR PORPHYRY FLOW	Feldspar porphory with trachytic feldspar phenocrysts. Feldspars are aligned and oriented at a high angle (~75 degrees) to the core axis. Veining is predominantly calcite at low angles to the core axis. Mostly unaltered with moderate to strong propyllitic beginning at 244m. Mineralization consists of rare pyrite found in calcite veins and small blebs of magnetite appearing at around 276m of depth. Composite Sampled: last 15cm of each row in the box is sampled whole in a composite which represents the entire box.
85.1	88.0	H	FELDSPAR PORPHYRY VOLCANIC BRECCIA	Brecciated zone with calcite veins containing pyrite. Continuous sampling in 2m intervals
88.0	102.5	H	FELDSPAR PORPHYRY FLOW	
102.5	143.4	H	FELDSPAR PORPHYRY VOLCANIC BRECCIA	Sub angular brecciated clasts of bladed feldspar porphory.
143.4	178.0	H	LITHIC TUFF	Lapilli tuffs bedded at 65 º TO CORE AXIS. Grain supported and beds fining upwards. Matrix is predominantly sand-sized feldspars with calcite replacement in some locales.
178.0	189.7	H	FELDSPAR PORPHYRY FLOW	Stockworked with low-angle calcite veins. Composite Sampled: last 15cm of each row in the box is sampled whole in a composite which represents the entire box.
189.7	294.2	H	LITHIC TUFF	Lapilli tuff with a calcite matrix in several locales.
294.2	328.5	T	DACITE TUFF	Fine to medium grained dacite with calcite stockworking with rare brecciated clasts of feldspar porphory.

***Groups: A=Asitka, B=Black Lake Intrusives, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Dykes, S=Sustut, T=Takla**

KB-05-11

From (m)	To (m)	Group*	Rock Type	Comments
328.5	334.4	T	BLADED FELDSPAR PORPHYRY VOLCANIC BRECCIA	Brecciated bladed feldspar porphory with strong propyllitic alteration. Epidote replacing feldspars.
334.4	350.5	T	DACITE VOLCANIC BRECCIA	Zone of intense propyllitic alteration that ends abruptly. Appearance of mottled magnetite phenocrysts.

Groups: A=Asitka, B=Black Lake Intrusives, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Dykes, S=Sustut, T=Takla

KB-05-12

From (m)	To (m)	Group*	Rock Type	Comments
0.0	42.7		OVERBURDEN	Fines sampled from base of overburden.
42.7	61.9	H	INTERMEDIATE TUFF	Sandy matrix intermediate volcanic lithic fragments. Clasts to 5cm variety of lithologies dominated by plag phyric volcanic (dacite?). Locally discernable bedding, ocasionally dislocated by local minor structures 10 cm displacement. Locally welded and compressed with fiammi aligned @50 degrees to core axis.
61.9	64.0	T	ANDESITIC AUGITE PORPHYRY FAULT ZONE	Augites, chlorite altered, to 5mm and 25% typically euhedral in plag-rich matrix. Less oxidised sections are grey-green.Calcite veins/stringers to 20% Quartz veining rare and rusty (oxidised pyrite).
64.0	160.0	T	ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA	
160.0	170.5	T	ANDESITE FLOW	Sandy textured, faint flow banding, equigranular.
170.5	176.3	C	ANDESITIC AUGITE PORPHYRY DYKE	Unaltered augites to 30%, euhedral to 6mm and partially etched.
176.3	183.7	T	ANDESITE FLOW	Chlorite/biotite replacement with preferential banding in protolith similar to 217571-75
183.7	190.0	C	DACITE DYKE	Bleached equivalent to above dyke at 170-176m. Similar mineralogy and wet appearance. Extensive (to 20%) adularia style amorphous veining/replacement with associated pyrite. Euhedral augite phenos to 1cm.
190.0	198.0	T	ANDESITE FLOW	Lithology based on 20% rock in unit. Balance is adularia veining and sulphides.
198.0	237.6	T	ANDESITE VOLCANIC BRECCIA	Clots epidote, clast specific to breccia fragments. Clasts to 10cm, plag porphyry dominates. Calcite stringers and stockworks to 5mm and 5%. Matrix supported.
237.6	242.3	C	DACITE DYKE	Plagioclase porphyritic dyke. Phenos to 1cm euhedral in salmon pink groundmass.
242.3	342.0	T	ANDESITE VOLCANIC BRECCIA	

Groups: A=Asitka, B=Black Lake Intrusives, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Dykes, S=Sustut, T=Takla

KB-05-13

From (m)	To (m)	Group*	Rock Type	Comments
0.0	42.5		OVERBURDEN CONGLOMERATE	Fines sampled from base of overburden.
42.5	87.7	H	INTERMEDIATE TUFF	start of the Toodoggone Formation. Oxidized tuff. The tuff is dark red/brown and is highly oxdized. It has a porphyritic texture, phenocrysts are calciite and are <0.5mm in size. The rock is slightly stockworked with thin (1-10mm wide, some 8cm but rare) calcite veins.
87.7	125.0	C	FELSIC DYKE	Dike cutting Toodoggone rock. The dike is fine grained to porphyritic with phenocrysts of plagioclase which have been converted to sericite. Blebs of chlorite also present in the dike. The dike is soft, composed cheifly of sericite and chlorite (phyllic alteration). 1-10cm calcite veins cut the dike, associated with these calcite veins is a hard purple and dark green mineral either anhydrite or fluorite (hard purple mineral in Kemess South is Anhydrite). Minor pyrite is visible in the felsic dike.
125.0	162.0	H	INTERMEDIATE TUFF	light grey vein appears to be sericite with minor pyrite, pink halo surround it (k-spar or hematite?).
162.0	194.0	T	ANDESITE VOLCANIC BRECCIA	Start of the Takla volcanics. The Takla in this hole is a volcanic flow breccia. It is dark green with a porphyritic texture. The phenocrysts are a mixture of carbonate and sericite (most are carbonate). Assoc. with the carbonate veins is minor amounts of pyrite. The rock is stockworked with thin calcite stringer veins. There is splashes of epidote throughout the Takla unit, this with the carbonate seen indicates a moderate propyllitic alteration. There is also augite phenocrysts futher down in the unit (AAP).
194.0	196.0	T	ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA	Augite phenocrysts appear.
196.0	198.0	T	ANDESITE VOLCANIC BRECCIA	Spots of oxidation alteration
198.0	301.0	T	ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA	minor oxidation alteration

Groups: A=Asitka, B=Black Lake Intrusives, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Dykes, S=Sustut, T=Takla

KB-05-13

From (m)	To (m)	Group*	Rock Type	Comments
301.0	352.4	B	FELSIC DYKE	Felsic dike begins. Sharp contact with Takla volcanics. Dike is light pink contain minor amounts of carbonates and trace amounts of sulphides. The dike displays phenocrysts that have been altered to a dark soft mineral (perhaps chlorite?). Thin stringer veins of calcite are the only veins seen in the dike. Slight potassic alteration altering phenocrysts to chlorite, also a slight carbonate overprint. Might have a silicic event near the base of the dike.
352.4	368.8	T	ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA	Chill margin (baked Takla VBX), high in biotite??? Clasts of other rocks present

Groups: A=Asitka, B=Black Lake Intrusives, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Dykes, S=Sustut, T=Takla

KB-05-14

From (m)	To (m)	Group*	Rock Type	Comments
0.0	45.7		OVERBURDEN	Overburden up until 45.7m
45.7	52.4	H	INTERMEDIATE TUFF	Toodoggone Formation. The rock is marroon with patches of white which appear to be sericite. This unit contains angular fragments of other lithologies. Occasionally hematite veins are seen. Oxidation is the alteration present in this unit.
52.4	174.0	T	ANDESITE VOLCANIC BRECCIA	Takla volcanic breccia. Light grey rock that contains angular blocks of other lithlogies. Through-out the rock there are sections that contain phenocrysts of plagioclase that have been altered to sericite and a matrix that has a light pink colouration (either biotite or sericite with hematite staining). These sections are alteration halos assoc. with pyrite veins. The rock has undergone an intense phyllic alteration and is composed primarily of sericite and pyrite.
174.0	176.0	T	ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA	augite phenocrysts present.
176.0	274.0	T	ANDESITE VOLCANIC BRECCIA	
274.0	338.8	T	ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA	5 calcite veins with a 42º to core axis
338.8	396.2	T	ANDESITIC AUGITE PORPHYRY FLOW	Alteration contact at 338m, cholritic (potassic) alteration begins. The rock type stays the same, andesitic augite porphyry (Takla), however there are no clasts noticed in the unit, changed lith form to flow. The change in alteration is seen by an increase in MagS and by an erupt colour change from grey-green to dark green with very dark green phenos that are augites which have been replaced by chlorite. This section contains carbonate-zeolite stockworking along with anhydrite stockworking.

**Groups: A=Asitka, B=Black Lake Intrusives, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Dykes, S=Sustut, T=Takla*

KB-05-15

From (m)	To (m)	Group*	Rock Type	Comments
0.0	15.4		OVERBURDEN	Overburden, consists of tree roots, few rounded clasts and sand/silt.
15.4	36.6	H	FELSIC CONGLOMERATE	"Non-Basal Conglomerate" Unit. This unit is green-grey-maroon in colour. It is composed of large (sometimes as large as 22cm) to small rounded clasts of numerous lithologies (e.g. pink intrusives, andesitic volcanics, highly oxidized clasts) the rock is clast supported. The matrix is made-up of soft sediments (e.g. fine grained clay, silt and a soft green mud). There is no preferred orientation of the clasts and no sulphides are seen. This unit appears to be slightly oxidized. COMPOSITE SAMPLING (10cm of rock at the end of each row in a box)
36.6	77.0	H	INTERMEDIATE TUFF	"Toodoggone Rock" This rock is composed of broken angular fragments. The fragments are highly oxidized and are difficult to determine their lithology. The matrix is a soft green material (chlorite?) in some sections and a hard maroon silt/sand in other areas. The Toodoggone rock ranges from pyroclastic breccia - tuff breccia - lapilli tuff - tuff. Erosional surface at the beginning of this box.
77.0	86.0	C	SYENITE DYKE	"Syenite Dyke" The dyke is dark brown in colour and displays a porphyritic texture that consists of chlorite and sericite phenocrysts rimmed by epidote. Only two calcite veins are seen cutting the dyke. The dyke appears to have undergone slight propyllitic alteration. No minerlization can be seen.
86.0	155.4	H	INTERMEDIATE TUFF	Same layer as 217802
155.4	156.6	H	FELSIC TUFF	Bleach white tuff layer. This layer has vugs which are filled with gypsum. TS sample taken
156.6	228.7	H	INTERMEDIATE TUFF	Start of composite sampling. Minor calcite stockworking. 15cm section of light brown sediments.
228.7	235.3	H	MAFIC TUFF	Dark green/black rock highly stockworked with a mixture of calcite/zeolite and gypsum veins. The rock is fine grained and has small crystal phenocrysts, perhaps a crystal tuff? Weak propyllitic alteration. (High MagSus reading??? Basaltic flow???)

Groups: A=Asitka, B=Black Lake Intrusives, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Dykes, S=Sustut, T=Takla

KB-05-15

From (m)	To (m)	Group*	Rock Type	Comments
235.3	267.5	H	INTERMEDIATE TUFF	Beginning of composite sampling. Back in to VBX that ranges from lapilli tuff to tuff. Odd blebs of carbonate surrounded by epidote.
267.5	282.6	H	INTERMEDIATE AGLOMERATE	Aglomerate- this unit consists of angular - semi-angular - semi-rounded intrusive clasts. Some of the matrix displays a welded texture (swallow tail), however, from the spherical nature of most of the clasts it appears that they have been reworked to some degree (epiclastic). There are also well bedded layers of fine ash within this unit.
282.6	301.0	H	INTERMEDIATE SEDIMENTS	A mixture of lithic material and sediments that include; rounded to ragged clasts of green porphyritic rock, light pink fragments (possible intrusive rock), and a matrix of fine greyish ash? In some areas the rock is medium grained and appears to have a interlocking texture (appears intrusive). Other areas the rock is poorly to well bedded with fine sediment (even cross-bedding is seen). The rock is relativley unaltered, only few calcite veins are seen cutting the matrix and bedding.
301.0	359.7	H	INTERMEDIATE TUFF	Reappearance of the Toodoggone volcanics. The difference betweem this unit and the previous Toodoggone volcanics is that this particular unit contains bedded sections and displays more welded textures (ignibrite texture). Propyllitic alteration is still the dominate alteration.

Groups: A=Asitka, B=Black Lake Intrusives, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Dykes, S=Sustut, T=Takla

KB-05-16

From (m)	To (m)	Group*	Rock Type	Comments
0.0	21.3		OVERBURDEN	
21.3	52.1	H	HETEROLITHIC CONGLOMERATE	Framework supported Conglomerate from the Hazleton formation made up of ~70% well rounded intrusive (granite) clasts and 20% andesitic/basaltic clasts, likely of Tackla origin. Matrix consists of calcite and well-rounded pebble sized lithic fragments up to 3mm in diameter. Local infilling of calcite around clasts. Alteration is predominantly stong oxidization.
52.1	188.0	T	ANDESITIC AUGITE PORPHYRY FLOW	Fine to medium grained andesite augite porphory. Sub-angular to sub-rounded augite phenocrysts making up 15-20% of the unit with some local brecciated sections having between 0-5% augite phenocryts. Rare quartz eyes in local sections up to 4mm in diameter. Veining is primarily low-angle calcite in the upper section of the hole with gypsum veins beginning at 214m depth. There is a local section with a strong fabric from 236m to 270m that trends at 40-55 degrees to the core axis. Alteration is primarily weak phyllic in the upper sections increasing to moderate at about 104m depth and then changing to moderate KQS at 264m. There is a local zone with strong silicic alteration from 246m to 264m. Mineralization consists of disseminated pyrite throughout the unit with some small pyrite veins and minor pyrite occurring in some calcite veins. Magnetite occurs in the augite phenocrysts as well as rare magnetite veins.
188.0	198.0	T	ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA	Large clasts of crowded feldspar porphory in a fine grained matrix. Depositional environment switches from a flow to a volcanic breccia.
198.0	305.0	T	ANDESITIC AUGITE PORPHYRY FLOW	
305.0	314.0	T	ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA	Heterogeneous andesitic vocanic breccia. Brecciated section contains small pyrite veinlets about 1mm thick as well as a local section of quartz phenocrysts that are up to 4mm in diameter. Less augite phenocrysts ranging from 0 to 5%.
314.0	316.0	T	ANDESITIC AUGITE PORPHYRY FLOW	Appearance of epidote.
316.0	318.0	T	ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA	
318.0	320.0	T	ANDESITIC AUGITE PORPHYRY FLOW	

Groups: A=Asitka, B=Black Lake Intrusives, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Dykes, S=Sustut, T=Takla

KB-05-16

From (m)	To (m)	Group*	Rock Type	Comments
320.0	330.0	T	ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA	
330.0	340.0	T	ANDESITIC AUGITE PORPHYRY FLOW	
340.0	366.2	T	BASALT FLOW	Fine to medium grained massive basalt flow. Contains minor augite phenocrysts up to 5mm in diameter. Alteration consists of strong local sections of mag-destructive KQS alteration as well as relatively unaltered sections. Veining is primarily calcite and pyrite. Mineralization is primarily pyrite in veins and stringers typically at low angles to the core axis as well as minor amounts of disseminated pyrite in the matrix. Abundant primary magnetite.
366.2	378.0	T	ANDESITIC AUGITE PORPHYRY FLOW	Andesite augite porphory similar to AAP unit above. Fine grained matrix with approximately 8-15% augite phenocrysts. Alteration is strong KQS with textures similar to that of an intrusive unit due to augite phenocrysts being replaced with calcite. Veining consists of minor calcite stockworking as well as one major quartz/epidote vein at 372.1m. Mineralization consists of disseminated pyrite in the matrix as well as small pyrite veins.

Groups: A=Asitka, B=Black Lake Intrusives, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Dykes, S=Sustut, T=Takla

Kemess Bear 2005 Diamond Drill Log

Northgate Minerals Corp.

KB-05-17

From (m)	To (m)	Group*	Rock Type	Comments
0.0	12.2		OVERBURDEN	Fines sampled from base of overburden.
12.2	28.1	H	HETEROLITHIC TUFF	Grain supported tuff with sub to well rounded lithic fragments interbedded with volcanic siltstones and mudstones. Tuff sections consist of bedded sub to well rounded lithic clasts mostly made up of 70% fragments of andesites and dacites along with 20% intrusive clasts ranging from sand-sized to pebble. The matrix is predominantly calcitic. The volcanic mudstones and siltstones are massive in texture and have some inclusions of a black hydrocarbon material in several locales. The units are interbedded with sequences fining upwards and the alteration is moderate to strong oxidation. Composite Sampled: last 15cm of each row in the box is sampled whole in a composite which represents the entire box.
28.1	32.6	H	HETEROLITHIC SILTSTONE	
32.6	41.5	H	HETEROLITHIC TUFF	Bedded tuff with sequences fining upwards.
41.5	45.8	H	HETEROLITHIC SILTSTONE	
45.8	67.3	H	HETEROLITHIC TUFF	
67.3	76.1	H	HETEROLITHIC MUDSTONE	Volcanic mudstone
76.1	80.2	H	HETEROLITHIC TUFF	
80.2	84.6	H	HETEROLITHIC MUDSTONE	
84.6	93.3	H	HETEROLITHIC TUFF	
93.3	106.3	H	HETEROLITHIC MUDSTONE	Small section of organic hydrocarbon at 95.5m.-similar to above.
106.3	119.2	H	HETEROLITHIC TUFF	

**Groups: A=Asitka, B=Black Lake Intrusives, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Dykes, S=Sustut, T=Takla*

KB-05-17

From (m)	To (m)	Group*	Rock Type	Comments
119.2	123.3	H	HETEROLITHIC MUDSTONE	
123.3	127.5	H	HETEROLITHIC TUFF	Interbedded bits of a hydrocarbon material at 125.5m..
127.5	348.2	H	HETEROLITHIC CONGLOMERATE	Fragmental heterolithic conglomerate made up of 70% well rounded intrusive clasts up to 30cm in diameter along with 20% rounded andesitic and BFP clasts, likely of Tackla origin. Minor clasts of cherts and feldspar porphories are also present. The matrix is made up of sand-sized to pebble sized rounded lithic fragments. Alteration is primarily moderate to strong oxidization with some lithic fragments showing evidence of propyllitic alteration prior to deposition. Rare pyrite appears in the matrix in local sections. Composite sampling of whole core from chosen sections to represent the typical makeup of the matrix of the unit.
348.2	384.0	A	CROWDED FELDSPAR PORPHYRY FLOW	Crowded feldspar porphory with euhedral feldspar phenocrysts in an aphanitic groundmass. Alteration is moderate to strong oxidized at the top of the unit with hematite staining in cracks in the structure. At 366m, alteration becomes strong to intense KSC. Mineralization consists of small amounts of pyrite found in calcite and sericite veins as well as large blebs of pyrite found with calcite in a local section with a mosaic texture at 382m depth. Continuous sampling in 2m intervals begins.

Groups: A=Asitka, B=Black Lake Intrusives, C=Cretaceous Basalt Dykes, H=Hazelton(Toodoggone), L=Late Triassic Intrusives, P=Post-Mineral Dykes, S=Sustut, T=Takla

Kemess Bear 2005 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: KB-05-01

From	To	Rock Type	Py-Cpy-Mt	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
0	15.2	**CASING**							
0.0	15.2								
15.2	70.4	**FRAGMENTAL HETEROLITHIC CONGLOMERATE**							
15.2	28.4	Fine to coarse grained light brown grey moderately oxidized	0.0 **0.0** 2.0			Framework supported conglomerate composed of 60% granite-diorite well-rounded clasts to 20cm in diameter. Also 20% basalt-andesite, likely of Takla origin, locally feldspar +/- augite porphyritic. Minor chert fragments, glassy fragments, and tuff lenses. Matrix composed of sandy textured small,<1mm lithic fragments including 0.1-0.5mm quartz eyes. While typically diagnostic if Hazleton Group epiclastics, these quartz eyes may simply be remants from intrusive fragments. Local calcite in matrix. Majority of volcanic fragments have orange-brown oxidised rind up to 1cm thick. Majority of intrusive clasts pink-orange-brown tinted by oxidation. Composite Sampled: last 15cm of each row in the box is sampled whole in a composite which represents the entire box.	215751	0.007	0.001
28.4	35.1		0.0 **0.0** 2.0	*4*			215752	0.008	0.005
35.1	41.8		0.0 **0.0** 2.0	*3*			215753	0.008	0.001
41.8	43.2		0.0 **0.0** 2.0	*2*		Resampled after original composite (215754) returned anomalous gold	216491	0.005	0.005
43.2	44.6		0.0 **0.0** 2.0	*2*			216492	0.006	0.006
44.6	46.0		0.0 **0.0** 2.0	*2*			216493	0.009	0.001
46.0	47.2		0.0 **0.0** 2.0	*2*			216494	0.009	0.001
47.2	52.7		0.0 **0.0** 2.0	*2*			215755	0.007	0.001
52.7	58.4		0.0 **0.0** 2.0	*5*			215756	0.007	0.009
58.4	63.8		0.0 **0.0** 2.0	*2*			215757	0.009	0.010
63.8	69.2		0.0 **0.0** 2.0	*2*			215758	0.009	0.009

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From	To	Rock Type	Py-Cpy-Mt	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
69.2	70.4	Fine to coarse grained light brown grey moderately oxidized	0.0 **0.0** 2.0	*3*		Begin continuous 1/2 cut sampling.	215759	0.007	0.005
70.4	75	**FRAGMENTAL HETEROLITHIC TUFF**							
70.4	72.5	Very fine to fine grained dark brown grey weakly propyllitic	0.1 **0.0** 0.1	*1*		This and next sample interval form one continuous graded bed. This interval consists of silt to mud sized tuffaceuos material, partially welded and locally altered to sericite and chlorite.	215760	0.010	0.010
72.5	75.0	Fine to coarse grained dark brown grey moderately propyllitic	0.1 **0.0** 0.1	*0*		Silt to pebbles, mainly coarse sand sized fragments. Mafic phenos completely altered to chlorite.	215761	0.008	0.006
75	82.5	**FRAGMENTAL HETEROLITHIC VOLCANIC BRECCIA**							
75.0	77.0	Fine to coarse grained dark brown grey moderately propyllitic	0.1 **0.0** 0.1	*0*		Similar to above conglomerate but with more angular clasts, lower granite content (30%) and 50% andesite clasts to 30cm very angular and often rimmed by chlorite. Local coliform textures.	215762	0.005	0.001
77.0	79.0		0.1 **0.0** 0.1	*0*			215763	0.002	0.001
79.0	81.0		0.1 **0.0** 0.1	*1*			215764	0.001	0.001
81.0	82.5		0.1 **0.0** 0.1	*0*		Clasts 100% andesite	215765	0.001	0.001
82.5	202	**PORPHYRITIC ANDESITE VOLCANIC BRECCIA**							
82.5	84.0	Fine to medium grained light grey green moderately phyllic	1.0 **0.0** 0.1	*0*		Intermediate volcanic blocky fragmental autobreccia. Contacts diffused, blocks notable by textural changes ie sericitised fsp content, presence of rare augite phenos. Sericite replaces 0.5mm anhedral felspars to 30%, resulting in amygdular texture. Pyrite in whispy stringers at low angle to core axis, and as fine grained disseminations. Calcite, chlorite and gypsum also in minor low angle stringers.	215766	0.002	0.001
84.0	86.0		1.0 **0.0** 0.1	*0*			215767	0.002	0.005
86.0	88.0		1.0 **0.0** 0.1	*1*			215768	0.002	0.001
88.0	90.0		1.0 **0.0** 0.1	*1*			215769	0.001	0.005
90.0	92.0		1.0 **0.0** 0.1	*1*			215770	0.001	0.007

Hole Number: KB-05-01

From	To	Rock Type	Py-Cpy-Mt			Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
92.0	94.0	Fine to medium grained light grey green strongly phyllic	1.0	**0.0**	0.1	*0*				Increased silicification	215771	0.002	0.001
94.0	96.0	Fine to medium grained light grey green moderately phyllic	1.0	**0.0**	0.1	*0*					215772	0.001	0.009
96.0	98.0	Fine to medium grained light grey green strongly phyllic	1.0	**0.0**	0.1	*0*	GYPV	45	10		215773	0.002	0.001
98.0	100.0		1.0	**0.0**	0.1	*1*					215774	0.001	0.001
100.0	102.0		1.0	**0.0**	0.1	*0*					215775	0.001	0.001
102.0	104.0		1.0	**0.0**	0.0	*0*					215777	0.000	0.001
104.0	106.0		1.0	**0.0**	0.0	*0*					215778	0.001	0.001
106.0	108.0		1.0	**0.0**	0.0	*0*					215779	0.001	0.001
108.0	110.0	Fine to medium grained light grey green moderately phyllic	0.5	**0.0**	0.0	*0*					215780	0.004	0.005
110.0	112.0		0.5	**0.0**	0.0	*0*				Local vuggy quartz veins	215781	0.003	0.009
112.0	114.0	Fine to medium grained light grey green weakly phyllic	0.1	**0.0**	0.0	*0*					215782	0.002	0.001
114.0	116.0		0.5	**0.0**	0.0	*0*					215783	0.003	0.001
116.0	118.0		0.5	**0.0**	0.0	*0*					215784	0.002	0.001
118.0	120.0		0.5	**0.0**	0.0	*0*					215785	0.002	0.001
120.0	122.0	Fine to medium grained grey green weakly phyllic	0.5	**0.0**	0.0	*0*				Local patchy chlorite. Calcite stringers and patchy replacement zones.	215786	0.003	0.022
122.0	124.0	Fine to medium grained light grey green weakly phyllic	0.1	**0.0**	0.0	*0*	CALPY	35	1		215787	0.001	0.001
124.0	126.0		0.1	**0.0**	0.0	*0*					215788	0.001	0.001
126.0	128.0		0.1	**0.0**	0.0	*0*					215789	0.001	0.001
128.0	130.0		0.1	**0.0**	0.0	*0*					215790	0.001	0.001
130.0	132.0		0.1	**0.0**	0.0	*0*					215791	0.001	0.001
132.0	134.0		0.1	**0.0**	0.0	*0*					215792	0.001	0.007
134.0	136.0		0.1	**0.0**	0.0	*0*					215793	0.001	0.001

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From	To	Rock Type	Py	Cpy	Mt	Ms	Veins	°tca	%	Comments	Sample#	Cu %	Au ppm
136.0	138.0	Fine to medium grained light grey green weakly phyllic	0.1	**0.0**	0.0	*0*					215794	0.001	0.001
138.0	140.0	Fine to medium grained dark grey green weakly phyllic	0.1	**0.0**	0.0	*0*					215795	0.001	0.008
140.0	142.0	Fine to medium grained light grey green weakly phyllic	0.1	**0.0**	0.0	*0*	CALST	40	5	Calcite/Quartz stockwork begins	215796	0.001	0.008
142.0	144.0		0.1	**0.0**	0.0	*0*				20% Augite porphyritic fragments	215797	0.001	0.008
144.0	146.0		0.1	**0.0**	0.0	*0*	CALQS	45	20		215798	0.001	0.009
146.0	148.0		0.1	**0.0**	0.0	*0*					215799	0.001	0.007
148.0	150.0		0.1	**0.0**	0.0	*0*				Breccia fragment boundaries more distict. Fragments darker than matrix.	215800	0.001	0.008
150.0	152.0		0.1	**0.0**	0.0	*0*					215801	0.001	0.005
152.0	154.0		0.1	**0.0**	0.0	*0*					215803	0.001	0.007
154.0	156.0		0.1	**0.0**	0.0	*0*	QCALV	55	10		215804	0.001	0.014
156.0	158.0		0.1	**0.0**	0.0	*0*					215805	0.001	0.008
158.0	160.0		0.1	**0.0**	0.0	*0*					215806	0.001	0.001
160.0	162.0		0.1	**0.0**	0.0	*0*					215807	0.001	0.001
162.0	164.0		0.1	**0.0**	0.0	*1*	CALQV	40	5		215808	0.001	0.001
164.0	166.0		0.1	**0.0**	0.0	*0*				End of stockworked zone.	215809	0.001	0.001
166.0	168.0		0.1	**0.0**	0.0	*0*					215810	0.001	0.001
168.0	170.0		0.1	**0.0**	0.0	*0*					215811	0.001	0.001
170.0	172.0		0.1	**0.0**	0.0	*0*					215812	0.001	0.001
172.0	174.0		0.1	**0.0**	0.0	*0*					215813	0.001	0.001
174.0	176.0		0.1	**0.0**	0.0	*0*					215814	0.001	0.001
176.0	178.0		0.1	**0.0**	0.0	*1*	FLT	20	1		215815	0.001	0.001
178.0	180.0		0.1	**0.0**	0.0	*0*					215816	0.001	0.001
180.0	182.0	Fine to medium grained light grey green moderately phyllic	0.1	**0.0**	0.0	*0*	CALV	45	5		215817	0.001	0.001

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From	To	Rock Type	Py-Cpy-Mt			Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
182.0	184.0	Fine to medium grained light grey green moderately phyllic	0.1	**0.0**	0.0	*0*					215818	0.002	0.001
184.0	186.0		0.1	**0.0**	0.0	*0*					215819	0.003	0.001
186.0	188.0		2.0	**0.0**	0.0	*0*	FLT	70	2		215820	0.004	0.001
188.0	190.0		1.0	**0.0**	0.0	*0*					215821	0.003	0.001
190.0	192.0		1.0	**0.0**	0.0	*0*					215822	0.003	0.001
192.0	194.0		1.0	**0.0**	0.0	*0*					215823	0.003	0.001
194.0	196.0		1.0	**0.0**	0.0	*0*					215824	0.003	0.001
196.0	198.0		1.0	**0.0**	0.0	*0*					215825	0.002	0.001
198.0	200.0		1.0	**0.0**	0.0	*0*					215826	0.002	0.001
200.0	202.0		1.0	**0.0**	0.0	*0*					215827	0.002	0.001
202	230	**PORPHYRITIC ANDESITIC AUGITE PORPHYRY VOLCANIC**											
202.0	204.0	Fine to medium grained dark grey green moderately phyllic	2.0	**1.0**	0.0	*0*				Zone where majority of blocks in volcanic breccia contain up to 5% anhedral Augite phenocrysts to 4mm, 50% altered to chlorite.	215829	0.002	0.001
204.0	206.0		2.0	**0.0**	2.0	*64*	CALPY	35	4		215830	0.002	0.001
206.0	208.0	Fine to medium grained grey green moderately phyllic	1.0	**0.0**	0.0	*28*					215831	0.003	0.001
208.0	210.0	Fine to medium grained dark grey green moderately phyllic	1.0	**0.0**	0.0	*0*					215832	0.003	0.001
210.0	212.0		2.0	**0.0**	0.0	*1*					215833	0.002	0.001
212.0	214.0		2.0	**0.0**	0.0	*1*					215834	0.002	0.001
214.0	216.0		2.0	**0.0**	0.0	*56*					215835	0.002	0.001
216.0	218.0		2.0	**0.0**	0.0	*62*					215836	0.002	0.001
218.0	220.0		2.0	**0.0**	0.0	*0*				Local bleached zones	215837	0.002	0.001
220.0	222.0		2.0	**0.0**	0.0	*1*					215838	0.002	0.001
222.0	224.0		1.0	**0.0**	0.0	*1*					215839	0.002	0.001

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From	To	Rock Type	Py	Cpy	Mt	Ms	Veins	(°tca	-%)	Comments	Sample#	Cu %	Au ppm
224.0	226.0	Fine to medium grained dark grey green moderately phyllic	0.5	**0.0**	0.0	*1*					215840	0.003	0.001
226.0	228.0		1.0	**0.0**	0.0	*0*	FLT	40	1		215841	0.001	0.001
228.0	230.0	Fine to medium grained light grey green moderately phyllic	1.0	**0.0**	0.0	*0*					215842	0.002	0.001
230	250	**MOTTLED ANDESITE VOLCANIC BRECCIA**											
230.0	232.0	Fine to medium grained light grey green moderately phyllic	2.0	**0.0**	0.0	*0*					215843	0.002	0.001
232.0	234.0		2.0	**0.0**	0.0	*0*					215844	0.002	0.001
234.0	236.0		2.0	**0.0**	0.0	*0*					215845	0.002	0.001
236.0	238.0		2.0	**0.0**	0.0	*0*					215846	0.004	0.001
238.0	240.0		2.0	**0.0**	0.0	*0*					215847	0.002	0.001
240.0	242.0		2.0	**0.0**	0.0	*0*					215848	0.002	0.001
242.0	244.0		2.0	**0.0**	0.0	*0*					215849	0.004	0.001
244.0	246.0		2.0	**0.0**	0.0	*0*					215850	0.002	0.001
246.0	248.0		2.0	**0.0**	0.0	*0*	CALV	40	3		215851	0.003	0.001
248.0	250.0		2.0	**0.0**	0.0	*1*					215852	0.002	0.001
250	254	**MOTTLED ANDESITE TUFF**											
250.0	252.0	Fine grained light grey pink moderately phyllic	0.5	**0.0**	0.0	*0*				Finer Grained unit similar to matrix of Volcanic Breccia above. Mottling stems from faint banding	215853	0.003	0.001
252.0	254.0		0.5	**0.0**	0.0	*0*					215855	0.003	0.001
254	257.2	**MOTTLED ANDESITE VOLCANIC BRECCIA**											
254.0	256.0	Fine to medium grained light grey green moderately phyllic	2.0	**0.0**	0.0	*0*					215856	0.003	0.001
256.0	257.2		0.0	**0.0**	0.0	*1*					215857	0.004	0.001
257.2	261	**PORPHYRITIC BASALT FLOW**											

Kemess Bear 2005 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: KB-05-01

From	To	Rock Type	Py	Cpy	Mt	Ms	Veins	(°tca	-%)	Comments	Sample#	Cu %	Au ppm
257.2	259.0	Fine to medium grained dark green black moderately propyllitic	0.2	**0.0**	5.0	*52*				Mainly massive black volcanic with .5mm augite phenos partially chloritized. Local patchy green epidote, calcite. Mild silicification. Significant increase in magnetism.	215858	0.004	0.001
259.0	261.0		0.0	**0.0**	5.0	*68*					215859	0.004	0.001
261	275	**MOTTLED ANDESITE VOLCANIC BRECCIA**											
261.0	263.0	Fine to medium grained light grey green weakly phyllic	1.0	**0.0**	2.0	*1*				Small sections magnetic basalt	215860	0.003	0.001
263.0	265.0		1.0	**0.0**	1.0	*58*					215861	0.003	0.001
265.0	267.0		1.0	**0.0**	0.0	*29*					215862	0.003	0.001
267.0	269.0		2.0	**0.0**	0.0	*0*	FLT	35	1		215863	0.003	0.001
269.0	271.0		1.0	**0.0**	0.0	*0*					215864	0.004	0.007
271.0	273.0		1.0	**0.0**	0.0	*1*					215865	0.003	0.001
273.0	275.0		20.0	**0.0**	0.0	*1*					215866	0.003	0.001
275	289.9	**PORPHYRITIC BASALT FLOW**											
275.0	277.0	Fine to medium grained dark green black moderately propyllitic	0.0	**0.0**	5.0	*1*					215867	0.003	0.001
277.0	279.0		1.0	**0.0**	5.0	*31*	CALPY	20	2		215868	0.003	0.001
279.0	281.0		1.0	**0.0**	5.0	*44*					215869	0.002	0.001
281.0	283.0		1.0	**0.0**	5.0	*56*					215870	0.003	0.001
283.0	285.0		1.0	**0.0**	5.0	*69*					215871	0.003	0.001
285.0	287.0		1.0	**0.0**	5.0	*63*					215872	0.003	0.001
287.0	288.5		1.0	**0.0**	5.0	*44*					215873	0.003	0.001
288.5	289.9		1.0	**0.0**	5.0	*38*					215874	0.003	0.001
289.9	296	**FRAGMENTAL ANDESITE TUFF**											
289.9	292.0	Fine grained light grey pink weakly phyllic	1.0	**0.0**	0.0	*1*				Similar to above tuff horizon but with greater fragmental content (to 30%) and 10% lapilli to 1cm, strong local concentrations.	215875	0.004	0.001

Hole Number: KB-05-01

From	To	Rock Type	Py	Cpy	Mt	Ms	Veins	(°tca	-%)	Comments	Sample#	Cu %	Au ppm
292.0	294.0	Fine grained light grey pink weakly phyllic	1.0	**0.0**	0.0	*0*	BED	70	0.1	Concentration of lapilli at 293.7m	215876	0.003	0.001
294.0	296.0		1.0	**0.0**	0.0	*0*					215877	0.004	0.001
296	337.4	**FRAGMENTAL ANDESITIC AUGITE PORPHYRY VOLCANIC**											
296.0	298.0	Fine grained green weakly phyllic	0.5	**0.0**	0.0	*0*	CALV	20	10		215878	0.006	0.001
298.0	300.0		0.5	**0.0**	0.0	*0*					215879	0.006	0.001
300.0	302.0		0.5	**0.0**	0.0	*0*					215881	0.004	0.001
302.0	304.0		0.5	**0.0**	0.0	*0*					215882	0.005	0.001
304.0	306.0		0.5	**0.0**	0.0	*11*					215883	0.002	0.001
306.0	308.0		0.5	**0.0**	0.0	*0*					215884	0.002	0.001
308.0	310.0		0.5	**0.0**	0.0	*7*					215885	0.003	0.001
310.0	312.0		0.5	**0.0**	0.0	*0*	CALV	20	2		215886	0.003	0.001
312.0	314.0		0.5	**0.0**	0.0	*0*	FLT	60	25		215887	0.003	0.001
314.0	316.0		0.5	**0.0**	0.0	*0*					215888	0.003	0.001
316.0	318.0		0.5	**0.0**	0.0	*1*					215889	0.003	0.001
318.0	320.0		0.5	**0.0**	0.0	*0*					215890	0.002	0.001
320.0	322.0		0.5	**0.0**	0.0	*0*					215891	0.002	0.001
322.0	324.0		0.5	**0.0**	0.0	*0*					215892	0.005	0.001
324.0	326.0		0.5	**0.0**	0.0	*0*					215893	0.003	0.001
326.0	328.0		0.5	**0.0**	0.0	*0*				30cm tuffaceous zone light gray-pink.	215894	0.004	0.001
328.0	330.0		0.5	**0.0**	0.0	*1*	CALV	15	5		215895	0.006	0.001
330.0	332.0		0.5	**0.0**	0.0	*0*					215896	0.006	0.001
332.0	334.0		0.5	**0.0**	0.0	*1*					215897	0.003	0.001
334.0	336.0	Fine grained green weakly propyllitic	0.5	**0.0**	1.0	*0*					215898	0.006	0.001
336.0	337.4		0.5	**0.0**	1.0	*0*				End of Hole	215899	0.004	0.001

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Northgate Minerals Corp.

Hole Number: KB-05-02

From	To	Rock Type	Py-Cpy-Mt	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
0	9.1	**CASING**							
0.0	9.1				10				
9.1	22	**FRAGMENTAL HETEROLITHIC CONGLOMERATE**							
9.1	14.4	Fine to coarse grained brown strongly oxidized		*1*		Clast supported conglomerate composed of 60% well rounded Granite/diorite clasts up to 20cm in diameter. Andesite/basalt clasts up to 5 cm in diameter make up about 20% of the clasts. Matrix is made up of fine to coarse lithic fragment. Some of the lithic fragments may be remnants of intrusive clasts. Also local calcite in the matrix. Most of the clasts have a brown oxidized rind around them. Composite sampled for the first two boxes-last 15cm of theends of each row as a representative of the whole sample.	216251	0.003	0.001
14.4	20.1			*2*			216252	0.004	0.001
20.1	22.0			*4*			216253	0.005	0.001
22	26.5	**FRAGMENTAL HETEROLITHIC TUFF**							
22.0	23.5	Very fine to fine grained brown strongly oxidized		*0*		Graded bed with fine grained silt sized particle in a welded tuff. Locally altered to sericite and chlorite with coarse lithic fragments. Sampled from block to block due to lost core.	216254	0.003	0.001
23.5	26.5			*0*			216255	0.001	0.001
26.5	117	**PORPHYRITIC ANDESITE VOLCANIC BRECCIA**							

Hole Number: KB-05-02

From	To	Rock Type	Py-Cpy-Mt	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
26.5	27.8	Very fine to medium grained grey moderately phyllic		0				Intermediate volcanic fragmental autobreccia. Very fine grained groundmass with feldspar phenocrysts. Contacts are graded and determined by textural changes such as sericitized phenocrysts, presence of chlorite or rare augite phenocrysts. Pyrite occurs as very fine disseminations throughout or small low angle veinlets. Pyrite replaces chlorite in phenocryts and occurs with calcite in cavities of tuffaceous sections. Coarser grained pyrite occurs with sericite infilling in faults.	216256	0.008	0.001
27.8	29.0			0					216257	0.004	0.001
29.0	31.0	Very fine to medium grained maroon intensely oxidized		0				Strongly oxidized zone with mottled texture	216258	0.003	0.001
31.0	32.6	Very fine to medium grained grey moderately phyllic		0	FLT	10	5		216259	0.003	0.001
32.6	33.2	Fine to coarse grained maroon intensely oxidized		0	BED	20	100		216260	0.002	0.001
33.2	35.0	Very fine to medium grained grey moderately phyllic	1.5	0	PYSTR	20	1	Several small pyrite stringers-very fine grained.	216261	0.002	0.001
35.0	37.0		4.0	0	PYV	25	2	Fine grained pyrite throughout.	216262	0.002	0.001
37.0	39.0		1.5	0	PYGYV	20	0.1		216263	0.001	0.001
39.0	41.0		0.5	0	PYSV	25	0.1		216264	0.001	0.001
41.0	43.0		2.0	0	FRK	20	0.1	Fracture infilled with sericite and fine grained pyrite.	216265	0.001	0.001
43.0	45.0		3.0	0	PYV	45	0.1		216266	0.002	0.001
45.0	47.0		1.0	0	FLT	25	1		216267	0.001	0.001
47.0	49.0		1.5	0					216268	0.001	0.001
49.0	51.0		2.0	0	PYV	45	0.1		216269	0.002	0.001
51.0	53.0		5.0	0				Very fine grained pyrite infilling brecciated clasts.	216270	0.002	0.001
53.0	55.0		4.0	0				Local baked zone about 30cm long.	216271	0.002	0.001
55.0	57.0		8.0	0	FLT	45	1		216272	0.002	0.001

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From	To	Rock Type	Py-Cpy-Mt	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
57.0	61.0	Very fine to medium grained grey strongly phyllic	5.0	0	FLT				216273	0.002	0.001
61.0	63.0		2.0	0	FLT	0	0.1		216274	0.002	0.001
63.0	65.0		1.0	0	FLT	45	10		216275	0.001	0.001
65.0	67.0		1.0	0	FLT	45	7		216277	0.002	0.001
67.0	69.0		0.5	0	FLT		30		216278	0.002	0.001
69.0	71.0	Very fine to medium grained grey moderately phyllic	0.5	0	FLT	45	1	Pyrite laminations around brecciated clasts.	216279	0.002	0.001
71.0	73.0		0.5	0	FLT	45	1		216280	0.001	0.001
73.0	75.0		0.5	0	GYV	35	0.1		216281	0.002	0.001
75.0	77.0		2.5	0	PYV	60	0.1	Local section of welded tuff	216282	0.002	0.001
77.0	79.0	Very fine to medium grained grey strongly phyllic	0.5	0	SV	20	1		216283	0.001	0.001
79.0	81.0		1.5	0	PYV	25	1		216284	0.002	0.001
81.0	83.0		0.5	0	GYV	45	2		216285	0.001	0.001
83.0	85.0		8.0	0	PYGYV	45	1	Increase in pyrite-infilling cracks and outlining around brecciated chunks.	216286	0.002	0.001
85.0	87.0		8.0	0	GYV	35	0.1		216287	0.001	0.001
87.0	89.0		7.0	0	PYV	25	1		216288	0.001	0.001
89.0	91.0		7.0	0	GYPYV	45	2		216289	0.002	0.001
91.0	93.0		5.0	0	GYV	45	1		216290	0.003	0.001
93.0	95.0		8.0	0	PYV	45	0.1		216291	0.003	0.001
95.0	96.5		8.0	0	PYV	30	5		216292	0.004	0.001
96.5	97.3	Very fine to medium grained dark grey intensely argillic	10.0	0	PYV	30	3	Local section of a dacitic tuff. Disseminated pyrite throughout with a clay mineral (Illite?)and gypsum filling voids.	216293	0.006	0.001
97.3	99.0	Very fine to medium grained grey strongly phyllic	5.0	0	PYV	45	2		216294	0.002	0.001

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From	To	Rock Type	Py-Cpy-Mt	Ms	Veins	(°tca	-%)	Comments	Sample#	Cu %	Au ppm
99.0	101.0	Very fine to medium grained grey strongly phyllic	5.0	0	GYV	20	2		216295	0.003	0.001
101.0	103.0		3.0	0					216296	0.003	0.001
103.0	105.0		5.0	0	PYSTR	20	2		216297	0.002	0.001
105.0	107.0	Very fine to medium grained grey intensely argillic	8.0	0				Local section with more intense Argillic alteration. Lenses of soapy clay mineral (illite?) up to 3 cm in diameter. Vuggy sections with soapy clay mineral and pyrite infilling the cavities.	216298	0.003	0.001
107.0	109.0	Very fine to medium grained grey strongly phyllic	5.0	0					216299	0.002	0.001
109.0	111.0		5.0	0					216300	0.003	0.001
111.0	113.0	Very fine to medium grained grey intensely phyllic	2.0	0					216301	0.002	0.001
113.0	115.0		2.0	0					216303	0.002	0.001
115.0	117.0	Very fine to medium grained grey strongly propyllitic	5.0	0	TV	80	1	Alteration changes to propyllitic.	216304	0.002	0.001
117	262.6	**MOTTLED ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA**									
117.0	119.0	Fine to medium grained grey green strongly propyllitic	2.0	0	ANV	45	0.1	Graded contact to Andesitic Augite Porphyry. Majority of blocks in volcanic breccia contain up to 5% anhedral Augite phenocrysts to 4mm, 50% altered to chlorite.	216305	0.003	0.001
119.0	120.3	Fine to medium grained grey green intensely argillic	10.0	0				Vuggy section similar to above with clay mineral and pyrite infilling cavities.	216306	0.006	0.001
120.3	121.0	Fine to medium grained grey green strongly propyllitic	3.0	18	QANV	50	2		216307	0.001	0.001
121.0	123.0		2.0	13	QPYV	45	0.1		216308	0.003	0.001
123.0	125.0		1.0	26					216309	0.003	0.001
125.0	127.0		0.5	22					216310	0.003	0.001
127.0	129.0	Fine to medium grained grey green intensely propyllitic	0.5	24				Serpentene appears, propyllitic alteration becomes more intense.	216311	0.002	0.001
129.0	131.0		0.1	21					216312	0.002	0.001

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From	To	Rock Type	Py	Cpy	Mt	Ms	Veins	(°tca	-%)	Comments	Sample#	Cu %	Au ppm
131.0	133.0	Fine to medium grained grey green intensely propyllitic	0.5			*24*					216313	0.002	0.001
133.0	135.0	Fine to medium grained grey green strongly propyllitic	2.0		0.1	*23*				Small amount of magnetite with pyrite-chlorite.	216314	0.003	0.001
135.0	137.0		0.1			*13*					216315	0.003	0.001
137.0	139.0	Fine to medium grained grey green moderately propyllitic	3.0			*18*					216316	0.002	0.001
139.0	141.0		0.1			*20*	EV	20	0.1		216317	0.002	0.001
141.0	143.0		5.0			*16*				Disseminated pyrite throughout.	216318	0.001	0.001
143.0	145.0		3.0			*5*	PYANV	45	0.1		216319	0.001	0.001
145.0	147.0		3.0			*5*	PYGYV	30	1		216320	0.002	0.001
147.0	149.0		1.0			*14*	ANV	30	0.1		216321	0.001	0.001
149.0	151.0		1.0			*8*	GYV	30	0.1		216322	0.001	0.001
151.0	153.0		1.0			*15*	ANV	20	1	Local section of lapilli tuff ~60cm long.	216323	0.001	0.001
153.0	155.0	Fine to medium grained grey green strongly phyllic	4.0			*7*	GYV	30	0.1		216324	0.001	0.001
155.0	157.0		8.0			*0*				Pyrite with chlorite in porphyrytic clasts.	216325	0.001	0.001
157.0	159.0		8.0			*0*	ANV	30	0.1		216326	0.001	0.001
159.0	161.0		8.0			*0*				Carbonate infilling in a brecciated section.	216327	0.002	0.001
161.0	163.0	Fine to medium grained grey moderately phyllic	1.0			*0*	PYCAL	45	0.1		216329	0.001	0.001
163.0	165.0		3.0			*0*					216330	0.001	0.001
165.0	167.0		5.0			*0*	PYV	45	0.1	Calcite-sericite-pyrite alteration. Mottled texture with chlorite clasts that contain pyrite.	216331	0.001	0.001
167.0	169.0		4.0			*0*	SV	45	0.1		216332	0.001	0.001
169.0	171.0		2.5			*0*					216333	0.001	0.001
171.0	173.0		2.5			*0*	FLT	60	2	Calcite lenses filling voids in the core.	216334	0.001	0.001
173.0	175.0		3.0			*0*	CALV	10	0.1		216335	0.001	0.001

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From	To	Rock Type	Py-Cpy-Mt	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
175.0	177.0	Fine to medium grained grey moderately phyllic	6.0		0	PYV	35	0.1		216336	0.001	0.001
177.0	179.0		2.5		0					216337	0.001	0.001
179.0	181.0		0.5		0	FLT	25	3		216338	0.001	0.001
181.0	183.0		0.1		0	GYV	45	0.1		216339	0.001	0.001
183.0	185.0		1.0		0					216340	0.001	0.001
185.0	187.0		1.0		0					216341	0.001	0.001
187.0	189.0		3.0		0	PYV	45	0.1		216342	0.001	0.001
189.0	191.0		3.0		0					216343	0.001	0.001
191.0	193.0		3.0		0					216344	0.001	0.001
193.0	195.0		3.0		0	SV	35	0.1		216345	0.001	0.001
195.0	197.0		5.0		1				Brecciated section with mottled clasts and carbonate matrix.	216346	0.001	0.001
197.0	199.0		5.0		1	CALV	45	1		216347	0.001	0.001
199.0	201.0		3.0		0	CALV	10	3		216348	0.001	0.001
201.0	203.0	Fine to medium grained light grey strongly phyllic	2.5		0	SV	30	2		216349	0.001	0.001
203.0	205.0	Fine to medium grained light grey moderately phyllic	2.5		0	CALPY	70	0.1		216350	0.001	0.001
205.0	207.0	Fine to medium grained light grey strongly phyllic	2.5		0	PYSV	80	0.1		216351	0.001	0.001
207.0	209.0		2.5		0					216352	0.001	0.001
209.0	211.0	Fine to medium grained grey strongly phyllic	3.5		0					216353	0.002	0.001
211.0	213.0		5.0		0	PYCAL	70	0.1		216355	0.001	0.001
213.0	215.0		4.0		1	PYV	70	0.1		216356	0.004	0.001
215.0	217.0	Fine to medium grained grey moderately phyllic	3.0		1	PYCAL	60	1		216357	0.006	0.001
217.0	219.0		5.0	0.1	1	QV	30	2		216358	0.002	0.001

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Northgate Minerals Corp.

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From	To	Rock Type	Py	Cpy	Mt	Ms	Veins	°tca	%	Comments	Sample#	Cu %	Au ppm
219.0	221.0	Fine to medium grained grey moderately phyllic	3.0		0.2	*12*	PYCAL	45	1		216359	0.002	0.001
221.0	223.0		4.0		0.5	*13*	CALSV	20	2		216360	0.002	0.001
223.0	225.0		3.0		0.2	*42*	CALV	80	2		216361	0.002	0.001
225.0	227.0		3.0		0.2	*46*	CALV	30	1		216362	0.003	0.001
227.0	229.0		3.0			*18*					216363	0.003	0.001
229.0	231.0		7.0			*6*				Calcite-sericite-pyrite alteration. Tuff with voids infilled with calcite, pyrite and sericite.	216364	0.004	0.001
231.0	233.0		7.0			*1*	SPYV	30	1		216365	0.003	0.001
233.0	235.0		7.0		0.1	*1*	CALPY	20	2		216366	0.004	0.001
235.0	237.0		5.0		0.2	*31*	SCALV	45	5		216367	0.004	0.001
237.0	239.0		3.0			*24*	PYCAL	30	0.1		216368	0.002	0.001
239.0	241.0		3.0			*26*	CALV	30	2		216369	0.003	0.001
241.0	243.0		8.0		0.3	*47*					216370	0.003	0.001
243.0	245.0		5.0		0.2	*53*					216371	0.002	0.001
245.0	247.0		2.0			*32*	CALZV	40	1	Framework supported Andesitic Augite Porphyry.	216372	0.003	0.001
247.0	249.0		0.5		0.1	*26*				Framework supported.	216373	0.004	0.001
249.0	251.0		2.0			*26*					216374	0.004	0.001
251.0	253.0		4.0			*18*	CALPY	45	0.1		216375	0.005	0.001
253.0	255.0		4.0			*32*	CALPY	30	0.1		216376	0.004	0.001
255.0	257.0	Fine to medium grained grey moderately propyllitic	2.0			*31*	CALV	20	2		216377	0.004	0.001
257.0	259.0		0.5	**0.1**		*26*					216378	0.004	0.001
259.0	261.0		0.5			*40*					216379	0.006	0.001
261.0	262.6	Fine to medium grained grey moderately phyllic	0.5			*27*					216381	0.003	0.001

262.6	267.5	**MOTTLED BASALT VOLCANIC BRECCIA**

Hole Number: KB-05-02

From	To	Rock Type	Py-Cpy-Mt	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
262.6	263.0	Fine to medium grained dark grey moderately phyllic	1.5	*25*	CALPY	30	0.1	Dark Grey basalt unit with augite phenocryst ~5mm in diameter. Stockworked with calcite veins and epidote zoning around calcite phenocrysts.	216382	0.003	0.001
263.0	265.0		2.0	*31*	CALV	20	5		216383	0.005	0.001
265.0	267.0		0.1	*45*	CALV	30	5		216384	0.004	0.001
267.0	267.5		1.0	*38*	CALV	30	5		216385	0.004	0.001
267.5	271	**SHEARED ANDESITE FAULT ZONE**									
267.5	269.0	Very fine to medium grained light grey strongly potassic - chlorite-sericite	3.0	*1*	FLT	35	75	Faulted zone of Intermediate volcanic blocky fragmental autobreccia. Same as described above.	216386	0.003	0.006
269.0	271.0		5.0	*0*	FLT	35	10		216387	0.005	0.001
271	303.8	**PORPHYRITIC ANDESITE VOLCANIC BRECCIA**									
271.0	273.0	Very fine to medium grained light grey strongly potassic - chlorite-sericite	5.0	*0*				Intermediate volcanic blocky fragmental autobreccia. Same as described above.	216388	0.005	0.001
273.0	275.0	Very fine to medium grained light grey strongly potassic - sericite-chlorite	4.0	*19*	SPYV	45	1		216389	0.006	0.001
275.0	277.0		5.0	*0*	CALPY	30	0.1		216390	0.006	0.001
277.0	279.0		8.0	*0*					216391	0.005	0.001
279.0	281.0		10.0	*1*	CALPY	35	1		216392	0.003	0.001
281.0	283.0		6.0	*1*	PYSV	35	0.1		216393	0.004	0.001
283.0	285.0		3.0	*0*	CALPY	35	0.1		216394	0.006	0.001
285.0	287.0		5.0	*1*					216395	0.005	0.001
287.0	289.0		7.0	*0*	SPYV	45	0.1		216396	0.006	0.001
289.0	291.0		4.0	*0*					216397	0.006	0.001
291.0	293.0		8.0	*1*	SPYV	70	1		216398	0.004	0.001
293.0	295.0		3.0	*1*					216399	0.002	0.001

Hole Number: KB-05-02

From	To	Rock Type	Py-Cpy-Mt			Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
295.0	297.0	Very fine to medium grained light grey strongly potassic - sericite-chlorite	4.0			2	CALSV	50	1		216400	0.003	0.001
297.0	299.0		4.0			1	PYV	10	1		216401	0.002	0.001
299.0	301.0		7.0			2	FLT		50		216402	0.004	0.005
301.0	303.0		7.0			0	SV	45	1		216403	0.010	0.001
303.0	303.8		7.0			0	PYCAL	70	1		216404	0.004	0.001
303.8	305.7	**MOTTLED ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA**											
303.8	305.7	Fine to medium grained grey green moderately propyllitic	5.0			2	CALPY	30	1		216405	0.002	0.001
305.7	313.8	**PORPHYRITIC ANDESITE VOLCANIC BRECCIA**											
305.7	307.0	Fine to medium grained light grey strongly phyllic	5.0			0	CALPY	30	0.1	Intermediate volcanic blocky fragmental autobreccia. Same as described above.	216407	0.004	0.001
307.0	309.0		5.0			0					216408	0.006	0.001
309.0	311.0		6.0			1	FLT	45	10		216409	0.002	0.006
311.0	313.0		10.0			1	FLT	45	20		216410	0.003	0.010
313.0	313.8		10.0			1	FLT	50	2		216411	0.001	0.010
313.8	325	**PORPHYRITIC ANDESITIC AUGITE PORPHYRY VOLCANIC**											
313.8	315.0	Fine to medium grained grey green moderately propyllitic	8.0			4	CALPY	35	0.1	Zone where majority of blocks in volcanic breccia contain up to 5% anhedral Augite phenocrysts to 4mm, 50% altered to chlorite.	216412	0.004	0.001
315.0	317.0		6.0			1		30	1		216413	0.005	0.001
317.0	319.0		6.0	0.1		0	CALV	40	0.1		216414	0.004	0.001
319.0	321.0		5.0	0.5		20	PYV	25	0.1		216415	0.003	0.001
321.0	323.3		7.0	0.1		44	PYCAL	30	0.1		216416	0.003	0.001
323.3	325.0		3.0			1	CALPY	40	0.1		216417	0.002	0.001
325	327	**PORPHYRITIC ANDESITE VOLCANIC BRECCIA**											

Hole Number: KB-05-02

From	To	Rock Type	Py	Cpy	Mt	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
325.0	327.0	Fine to medium grained light grey strongly potassic - sericite-chlorite	2.5		0.5	*1*	PYCAL	60	2		216418	0.004	0.001
327	351.4	**PORPHYRITIC ANDESITIC AUGITE PORPHYRY VOLCANIC**											
327.0	329.0	Fine to medium grained dark grey moderately phyllic	3.0		0.1	*33*	CALV	20	0.1		216419	0.003	0.001
329.0	331.0		1.0			*9*	CALV	45	2		216420	0.004	0.001
331.0	332.6		0.5		0.2	*32*	CALV	30	10		216421	0.004	0.001
332.6	335.0		4.0			*16*	CALV	5	0.1		216422	0.005	0.001
335.0	337.0	Fine to medium grained light grey strongly potassic - sericite-chlorite	3.0			*14*			30		216423	0.006	0.001
337.0	339.0		6.0		0.1	*12*	QV	40	2	Large quartz vein ~30cm in length.	216424	0.003	0.001
339.0	341.0		7.0			*31*	CALV	35	5		216425	0.004	0.001
341.0	343.0		6.0			*53*	CALV	20	0.1		216426	0.004	0.001
343.0	345.0		7.0			*12*	CALV	40	0.1		216427	0.003	0.001
345.0	347.0		3.0		1.0	*7*	PYV	60	10		216428	0.004	0.001
347.0	349.0		2.0			*12*	CALV	35	5		216429	0.002	0.001
349.0	351.4		4.0			*1*	FLT	35	0.1	End of hole.	216430	0.003	0.001

Hole Number: KB-05-03

From	To	Rock Type	Py-Cpy-Mt	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
0	6.1	**CASING**							
0.0	6.1								
6.1	123.1	**FRAGMENTAL HETEROLITHIC CONGLOMERATE**							
6.1	12.0	Fine to coarse grained light brown grey moderately oxidized	0.0 **0.0** 2.0	*5*		Framework supported conglomerate composed of 60% granite-diorite well-rounded clasts to 20cm in diameter. Also 20% basalt-andesite, likely of Takla origin, locally feldspar +/- augite porphyritic. Minor chert fragments, glassy fragments, and tuff lenses. Matrix composed of sandy textured small,<1mm lithic fragments including 0.1-0.5mm quartz eyes. While typically diagnostic if Hazleton Group epiclastics, these quartz eyes may simply be remants from intrusive fragments. Local calcite in matrix. Majority of volcanic fragments have orange-brown oxidised rind up to 1cm thick. Majority of intrusive clasts pink-orange-brown tinted by oxidation. Composite Sampled: last 15cm of each row in the box is sampled whole in a composite which represents the entire box.	215901	0.014	0.005
12.0	18.0		0.0 **0.0** 2.0	*5*			215902	0.005	0.001
18.0	23.7		0.0 **0.0** 2.0	*5*			215903	0.003	0.001
23.7	29.5		0.0 **0.0** 2.0	*5*			215904	0.005	0.001
29.5	35.0		0.0 **0.0** 2.0	*5*			215905	0.004	0.005
35.0	41.0		0.0 **0.0** 2.0	*5*			215906	0.004	0.001
41.0	46.5		0.0 **0.0** 2.0	*5*			215907	0.003	0.001
46.5	52.3		0.0 **0.0** 2.0	*5*			215908	0.004	0.001
52.3	58.2		0.0 **0.0** 2.0	*5*			215909	0.007	0.001
58.2	64.0		0.0 **0.0** 2.0	*5*			215910	0.005	0.001
64.0	69.6		0.0 **0.0** 2.0	*5*			215911	0.011	0.001
69.6	76.0		0.0 **0.0** 2.0	*5*		Local Bladed Feldspar Porphyry fragments.	215912	0.015	0.006

Hole Number: KB-05-03

From	To	Rock Type	Py	Cpy	Mt	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
76.0	81.7	Fine to coarse grained light brown grey moderately oxidized	0.0	**0.0**	2.0	*5*					215913	0.007	0.006
81.7	87.6		0.0	**0.0**	2.0	*5*					215914	0.006	0.005
87.6	93.0		0.0	**0.0**	2.0	*5*					215915	0.007	0.001
93.0	100.0	Fine to coarse grained brown grey strongly oxidized	0.0	**0.0**	2.0	*5*					215916	0.008	0.008
100.0	105.2		0.0	**0.0**	2.0	*5*					215917	0.010	0.001
105.2	110.8		0.0	**0.0**	2.0	*5*					215918	0.007	0.001
110.8	116.2		0.0	**0.0**	2.0	*5*					215919	0.009	0.022
116.2	119.0		0.0	**0.0**	2.0	*5*							
119.0	121.0		0.0	**0.0**	2.0	*5*				Begin continuous sampling.	215920	0.009	0.001
121.0	123.1		0.0	**0.0**	2.0	*5*					215921	0.009	0.001
123.1	151	**MOTTLED ANDESITE VOLCANIC BRECCIA**											
123.1	125.0	Fine to medium grained grey green moderately phyllic	0.0	**0.0**	0.0	*0*	FLT	70	70	Intermediate volcanic blocky fragmental autobreccia. Contacts diffused, blocks notable by textural changes ie. sericitised feldspar content, presence of rare augite phenos. Sericite replaces 0.5mm anhedral felspars to 30%, resulting in amygdular texture. Pyrite in faults and rare veins also as fine grained disseminations. Calcite, chlorite and gypsum also in minor low angle stringers. Rare clasts may be granite, but are altered. Significant fiammi-rich intersections.	215922	0.004	0.001
125.0	127.0		0.0	**0.0**	0.0	*0*	FLT	80	50		215923	0.000	0.001
127.0	129.0		0.0	**0.0**	0.0	*0*					215924	0.004	0.001
129.0	131.0		0.0	**0.0**	0.0	*0*					215925	0.002	0.001
131.0	133.0		0.1	**0.0**	0.0	*0*					215927	0.003	0.001
133.0	135.0		0.0	**0.0**	0.0	*0*	FLT	70	1		215928	0.002	0.001
135.0	137.0		0.1	**0.0**	0.0	*0*					215929	0.002	0.001
137.0	139.0		0.1	**0.0**	0.0	*0*					215930	0.002	0.001

Hole Number: KB-05-03

From	To	Rock Type	Py	Cpy	Mt	Ms	Veins	°tca	%	Comments	Sample#	Cu %	Au ppm
139.0	141.0	Fine to medium grained grey green moderately phyllic	0.0	**0.0**	0.0	*0*					215931	0.001	0.001
141.0	143.0		0.1	**0.0**	0.0	*0*					215932	0.001	0.001
143.0	145.0		0.1	**0.0**	0.0	*0*					215933	0.001	0.001
145.0	147.0		0.1	**0.0**	0.0	*0*					215934	0.001	0.001
147.0	149.0		0.1	**0.0**	0.0	*0*					215935	0.001	0.001
149.0	151.0		2.0	**0.0**	0.0	*0*	PYV	40	2		215936	0.001	0.001
151	165	**POORLY BEDDED ANDESITE TUFF**											
151.0	153.0	Fine to medium grained light grey green moderately phyllic	0.1	**0.0**	0.0	*0*	BED	80	0.1	Similar to matrix of a bove breccia. Fiammi rich fine grained, banded ash tuff with up to 30% lithic fragments less than 1cm. 10% anhedral zeolites? Soft white mineral.	215937	0.002	0.001
153.0	155.0		0.1	**0.0**	0.0	*0*					215938	0.003	0.001
155.0	157.0		0.1	**0.0**	0.0	*0*					215939	0.002	0.001
157.0	159.0		0.1	**0.0**	0.0	*0*					215940	0.002	0.001
159.0	161.0		0.1	**0.0**	0.0	*0*					215941	0.002	0.001
161.0	163.0		0.1	**0.0**	0.0	*0*					215942	0.002	0.001
163.0	165.0		0.1	**0.0**	0.0	*0*					215943	0.002	0.001
165	169.3	**MOTTLED ANDESITE VOLCANIC BRECCIA**											
165.0	167.0	Fine to medium grained light grey green moderately phyllic	0.1	**0.0**	0.0	*0*				Intermediate volcanic blocky fragmental autobreccia. Same as described above.	215944	0.001	0.001
167.0	169.3		0.1	**0.0**	0.0	*0*					215945	0.001	0.001
169.3	282.6	**PORPHYRITIC ANDESITIC AUGITE PORPHYRY FLOW**											
169.3	171.0	Fine to medium grained dark grey green moderately silicified (non-K)	2.0	**0.0**	0.0	*0*				Zone where majority of blocks in volcanic breccia contain up to 5% anhedral Augite phenocrysts to 4mm, 50% altered to chlorite. Disseminated pyrite clots to 3mm. Locally intense calcite stockworking. Augite phenos to 2mm mostly altered to chlorite.	215946	0.002	0.001
171.0	173.0		2.0	**0.0**	0.0	*0*					215947	0.010	0.001

Hole Number: KB-05-03

From	To	Rock Type	Py	Cpy	Mt	Ms	Veins	(°tca	-%)	Comments	Sample#	Cu %	Au ppm
173.0	175.0	Fine to medium grained dark grey green moderately silicified (non-K)	2.0	**0.0**	0.0	*0*					215948	0.009	0.001
175.0	177.0		2.0	**0.0**	0.0	*0*					215949	0.010	0.001
177.0	179.0		2.0	**0.0**	0.0	*0*					215950	0.004	0.006
179.0	181.0		2.0	**0.0**	0.0	*0*					215951	0.013	0.001
181.0	183.0		2.0	**0.0**	0.0	*0*	FLT	60	20		215953	0.009	0.005
183.0	185.0		2.0	**0.0**	0.0	*0*					215954	0.007	0.001
185.0	187.0		2.0	**0.0**	0.0	*0*					215955	0.011	0.001
187.0	189.0	Fine to medium grained dark grey green moderately propyllitic	2.0	**0.0**	0.0	*0*				Local epidote replacement associated with calcite stockworking.	215956	0.008	0.001
189.0	191.0		2.0	**0.0**	0.0	*0*					215957	0.008	0.001
191.0	193.0		2.0	**0.0**	0.0	*0*					215958	0.008	0.001
193.0	195.0		2.0	**0.0**	0.0	*0*					215959	0.006	0.001
195.0	197.0		2.0	**0.0**	0.0	*0*					215960	0.002	0.001
197.0	199.0		2.0	**0.0**	0.0	*0*					215961	0.003	0.001
199.0	201.0		2.0	**0.0**	0.0	*0*	FLT	80	30	40cm core loss at fault, marbles.	215962	0.002	0.001
201.0	203.0		2.0	**0.0**	0.0	*0*					215963	0.002	0.001
203.0	205.0		2.0	**0.0**	0.0	*0*					215964	0.002	0.001
205.0	207.0		2.0	**0.0**	0.0	*0*					215965	0.002	0.001
207.0	209.0		2.0	**0.0**	0.0	*0*					215966	0.000	0.001
209.0	211.0		2.0	**0.0**	0.0	*0*					215967	0.002	0.001
211.0	213.0	Fine to medium grained dark grey green strongly propyllitic	2.0	**0.0**	0.0	*12*	EV	70	5	Epidote and calcite veining increases.	215968	0.002	0.001
213.0	215.0		2.0	**0.0**	0.0	*8*					215969	0.001	0.001
215.0	217.0		2.0	**0.0**	0.0	*15*					215970	0.002	0.001
217.0	219.0	Fine to medium grained dark green strongly propyllitic	1.0	**0.0**	0.0	*4*				Anhedral feldspars to 5mm, locally to 30% begin.	215971	0.001	0.001

Hole Number: KB-05-03

From	To	Rock Type	Py	Cpy	Mt	Ms	Veins	(°tca	-%)	Comments	Sample#	Cu %	Au ppm
219.0	221.0	Fine to medium grained dark green strongly propyllitic	1.0	**0.0**	0.0	*1*					215972	0.001	0.001
221.0	223.0		1.0	**0.0**	0.0	*1*					215973	0.001	0.001
223.0	225.0		1.0	**0.0**	0.0	*1*					215974	0.001	0.001
225.0	227.0		1.0	**0.0**	0.0	*2*					215975	0.002	0.001
227.0	229.0		1.0	**0.0**	0.1	*3*	CALST	45	5		215976	0.001	0.001
229.0	231.0	Fine to medium grained dark grey green strongly propyllitic	1.0	**0.0**	2.0	*10*					215977	0.002	0.001
231.0	233.0		1.0	**0.0**	2.0	*10*					215979	0.003	0.001
233.0	235.0		1.0	**0.0**	2.0	*10*					215980	0.002	0.001
235.0	237.0		1.0	**0.0**	0.1	*10*					215981	0.002	0.001
237.0	239.0		1.0	**0.0**	0.1	*10*					215982	0.001	0.001
239.0	241.0		1.0	**0.0**	0.1	*10*					215983	0.001	0.001
241.0	243.0		1.0	**0.0**	0.1	*10*					215984	0.001	0.001
243.0	245.0		1.0	**0.0**	0.1	*10*					215985	0.003	0.001
245.0	247.0		1.0	**0.0**	0.1	*10*					215986	0.001	0.001
247.0	249.0		1.0	**0.0**	0.1	*10*	FLT	20	1		215987	0.001	0.001
249.0	251.0		1.0	**0.0**	0.1	*10*					215988	0.004	0.001
251.0	253.0		1.0	**0.0**	0.1	*10*					215989	0.001	0.001
253.0	255.0		1.0	**0.0**	1.0	*15*					215990	0.002	0.001
255.0	257.0		1.0	**0.0**	1.0	*15*					215991	0.002	0.001
257.0	259.0		1.0	**0.0**	1.0	*15*					215992	0.001	0.001
259.0	261.0		1.0	**0.0**	1.0	*15*					215993	0.001	0.001
261.0	263.0		1.0	**0.0**	1.0	*15*					215994	0.003	0.001
263.0	265.0		1.0	**0.0**	1.0	*15*					215995	0.001	0.001
265.0	267.0		1.0	**0.0**	1.0	*15*	CALST	0	2		215996	0.001	0.001

Hole Number: KB-05-03

From	To	Rock Type	Py	Cpy	Mt	Ms	Veins	(°tca	-%)	Comments	Sample#	Cu %	Au ppm
267.0	269.0	Fine to medium grained dark grey green strongly propyllitic	1.0	**0.0**	1.0	*15*					215997	0.002	0.001
269.0	271.0		1.0	**0.0**	1.0	*15*					215998	0.001	0.001
271.0	273.0		1.0	**0.0**	1.0	*15*					215999	0.001	0.001
273.0	275.0		1.0	**0.0**	1.0	*15*					216000	0.001	0.001
275.0	277.0		1.0	**0.0**	1.0	*15*					216451	0.002	0.001
277.0	279.0		1.0	**0.0**	1.0	*15*					216452	0.001	0.001
279.0	281.0		1.0	**0.0**	1.0	*15*					216453	0.001	0.001
281.0	282.6		1.0	**0.0**	1.0	*15*					216455	0.002	0.001
282.6	314	**PORPHYRITIC ANDESITE TUFF**											
282.6	284.0	Fine to medium grained light green grey moderately phyllic	1.0	**0.0**	0.0	*0*	BED	65	0.1	Similar to matrix of a bove breccia. Fiammi rich fine grained, banded ash tuff with up to 30% lithic fragments less than 1cm.	216456	0.001	0.001
284.0	286.0		1.0	**0.0**	0.0	*0*					216457	0.002	0.001
286.0	288.0		1.0	**0.0**	0.0	*0*					216458	0.002	0.001
288.0	290.0		1.0	**0.0**	0.0	*0*					216459	0.002	0.001
290.0	292.0		1.0	**0.0**	0.0	*0*	QEV	30	10	Locally vuggy.	216460	0.001	0.001
292.0	294.0		1.0	**0.0**	0.0	*0*					216461	0.002	0.001
294.0	296.0		1.0	**0.0**	0.0	*0*					216462	0.002	0.001
296.0	298.0		1.0	**0.0**	0.0	*0*					216463	0.002	0.001
298.0	300.0		1.0	**0.0**	0.0	*0*					216464	0.002	0.001
300.0	302.0		1.0	**0.0**	0.0	*0*					216465	0.001	0.001
302.0	304.0		1.0	**0.0**	0.0	*0*					216466	0.002	0.001
304.0	306.0		1.0	**0.0**	0.0	*0*					216467	0.002	0.001
306.0	308.0		2.0	**0.0**	0.0	*1*				Local agglomeratic lenses with significant pyrite in hairline stringers.	216468	0.002	0.001
308.0	310.0		1.0	**0.0**	0.0	*1*					216469	0.002	0.001

Hole Number: KB-05-03

From	To	Rock Type	Py	Cpy	Mt	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
310.0	312.0	Fine to medium grained light green grey moderately phyllic	1.0	**0.0**	0.0	*0*					216470	0.003	0.001
312.0	314.0		2.0	**0.0**	0.0	*0*					216471	0.003	0.001
314	345.6	**PORPHYRITIC ANDESITE VOLCANIC BRECCIA**											
314.0	316.0	Fine to medium grained light green grey moderately phyllic	2.0	**0.0**	0.1	*10*				Intermediate volcanic blocky fragmental autobreccia. Same as described above. This sample: 30 cm magnetite flooded zone, parallel to core axis consisting 30% core width.	216472	0.004	0.001
316.0	318.0		2.0	**0.0**	0.1	*1*					216473	0.009	0.001
318.0	320.0		2.0	**0.0**	0.1	*1*					216474	0.002	0.001
320.0	322.0		2.0	**0.0**	0.1	*1*					216475	0.003	0.001
322.0	324.0		2.0	**0.0**	0.1	*1*					216476	0.002	0.001
324.0	326.0		2.0	**0.0**	0.1	*1*					216477	0.001	0.001
326.0	328.0		2.0	**0.0**	0.1	*1*	FLT	20	10		216478	0.010	0.001
328.0	330.0		2.0	**0.0**	0.1	*1*					216479	0.004	0.001
330.0	332.0		2.0	**0.0**	0.1	*1*					216481	0.002	0.001
332.0	334.0		2.0	**0.0**	0.1	*1*					216482	0.003	0.001
334.0	335.3		2.0	**0.0**	0.1	*1*					216483	0.002	0.001
335.3	337.0	Fine to medium grained dark green black moderately potassic - sericite-quartz	2.0	**0.0**	5.0	*30*				Texturally similar to above unit, but with pervasive very fine grained magnetite in matrix	216484	0.006	0.001
337.0	339.0		2.0	**0.0**	1.0	*10*					216485	0.006	0.001
339.0	341.0		2.0	**0.0**	0.1	*4*					216486	0.000	0.001
341.0	343.0	Fine to medium grained dark green grey moderately phyllic	2.0	**0.0**	0.1	*1*					216487	0.000	0.001
343.0	344.5	Fine to medium grained light green grey moderately phyllic	2.0	**0.0**	0.1	*1*					216488	0.003	0.001
344.5	345.6	Fine to medium grained dark green black moderately phyllic	2.0	**0.0**	0.1	*3*					216489	0.000	0.001

Hole Number: KB-05-04

From	To	Rock Type	Py-Cpy-Mt	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
0	30.5	**CASING**							
0.0	30.5								
30.5	57.4	**FRAGMENTAL HETEROLITHIC VOLCANIC BRECCIA**							
30.5	39.8	Fine to coarse grained brown intensely oxidized		*6*		Framework supported volcanic breccia comosed of sub-rounded to rounded lithic clasts up to 5 cm. In diameter. Clasts are mainly andesite/basalt with rare intrusive clasts. Groundmass is sandy in texture composed of lithic fragments <1mm in diameter. Sections of dacitic tuff with local glassy textures that are clast free and a local section of a welded dacitic tuff. Local calcite matrix in some sections. Alteration is predominantly oxidized ranging from strong to intense with a few sections having strong propyllitic alteration. Composite Sampled: last 15cm of each row in the box is sampled whole in a composite which represents the entire box.	215501	0.015	0.029
39.8	46.0			*2*			215502	0.017	0.019
46.0	51.7	Fine to coarse grained green grey strongly propyllitic		*2*			215503	0.015	0.014
51.7	57.4			*1*			215504	0.013	0.012
57.4	63.1	**FRAGMENTAL HETEROLITHIC TUFF**							
57.4	63.1	Fine to coarse grained green grey strongly propyllitic		*1*		1.5m section of heavily oxidized clast-free dacitic tuff. Almost glassy in texture.	215505	0.013	0.010
63.1	167.8	**FRAGMENTAL HETEROLITHIC VOLCANIC BRECCIA**							
63.1	69.0	Fine to coarse grained green grey strongly propyllitic		*4*		Framework supported volcanic breccia. Same as described above.	215506	0.019	0.028
69.0	75.0	Fine to coarse grained brown strongly oxidized		*3*			215507	0.013	0.031
75.0	80.8			*2*		Oxidized with a propyllitic overprint.	215508	0.007	0.027
80.8	86.1			*2*			215509	0.009	0.035

Hole Number: KB-05-04

From	To	Rock Type	Py-Cpy-Mt	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
86.1	92.0	Fine to coarse grained brown strongly oxidized		*2*					215510	0.011	0.036
92.0	97.6			*2*					215511	0.023	0.037
97.6	103.3			*2*				1m Section of grey dacitic tuff similar to above but unaltered.	215512	0.035	0.034
103.3	109.1	Fine to coarse grained green grey strongly propyllitic		*12*					215513	0.017	0.058
109.1	115.0	Fine to coarse grained brown strongly oxidized		*1*				60cm section of oxidized dacitic tuff-similar to above. Somewhat glassy texture.	215514	0.024	0.027
115.0	120.8	Fine to coarse grained green grey strongly propyllitic		*5*					215515	0.021	0.041
120.8	126.9			*9*					215516	0.038	0.065
126.9	132.6			*13*					215517	0.022	0.040
132.6	138.3	Fine to coarse grained brown strongly oxidized		*3*					215518	0.013	0.033
138.3	144.2	Fine to coarse grained brown green moderately oxidized		*5*					215519	0.012	0.019
144.2	150.0	Fine to coarse grained green grey strongly propyllitic		*5*	DYK	20	80	40cm section of porphyrytic dyke. Oxidized feldspar phenocrysts in a glassy matrix. Low magnetic susceptibility in dyke.	215520	0.008	0.013
150.0	155.8	Fine to coarse grained brown strongly oxidized		*3*				Section of light brown dacitic tuff followed by a 30cm section of a welded tuff.	215521	0.010	0.027
155.8	161.3	Fine to coarse grained brown intensely oxidized		*1*					215522	0.008	0.016
161.3	167.8	Fine to coarse grained brown strongly oxidized		*4*				1.5M of oxidized dactic tuff.	215523	0.007	0.018
167.8	173.4	**FRAGMENTAL HETEROLITHIC TUFF**									
167.8	173.4	Fine to coarse grained brown strongly oxidized		*4*				Same as described above.	215524	0.009	0.022
173.4	206.8	**FRAGMENTAL HETEROLITHIC VOLCANIC BRECCIA**									

Hole Number: KB-05-04

From	To	Rock Type	Py-Cpy-Mt			Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
173.4	179.0	Fine to coarse grained brown intensely oxidized				*0*				Same as described above.	215525	0.003	0.001
179.0	184.6					*0*					215527	0.004	0.022
184.6	190.2					*0*					215528	0.002	0.005
190.2	196.0					*0*				50cm section of bedded tuff.	215529	0.001	0.001
196.0	201.2					*1*	BED	10	50		215530	0.001	0.009
201.2	206.8					*1*					215531	0.001	0.001
206.8	373.1	**FRAGMENTAL HETEROLITHIC CONGLOMERATE**											
206.8	213.7	Fine to coarse grained brown strongly oxidized				*2*				Volcanic heterolithic changes to heterolithic conglomerate. Framework supported made up of ~70% well rounded intrusive (granite) clasts and 20% andesitic/basaltic clasts, likely of Tackla origin. Minor clasts of bladed feldspar porphyry and chert as well. Local infilling of calcite around clasts Composite sampling of the last 10cm of each row continues.	215532	0.003	0.001
213.7	222.2		0.2			*1*				Massive chunk of pyrite in ground up core at 216.7m.	215533	0.004	0.001
222.2	228.2		0.1		1.0	*7*				Lagre chunk of bladed feldspar porphyry. Blebs of magnetite in the Bladed Feldspar Porphyry. Another massive chunk of pyrite found in ground core.	215534	0.004	0.001
228.2	233.9		0.1			*3*					215535	0.005	0.001
233.9	239.7		0.0			*2*					215536	0.003	0.005
239.7	245.1		0.0			*1*					215537	0.005	0.001
245.1	251.8		0.0			*1*					215538	0.003	0.001
251.8	253.6		0.0			*6*	BED	10	60		215539	0.003	0.001
253.6	256.0		0.0			*2*				Carbonate infilling around clasts. Sampled in 2m intervals.	215540	0.003	0.001
256.0	258.0		0.0			*3*					215541	0.005	0.001

Hole Number: KB-05-04

From	To	Rock Type	Py-Cpy-Mt	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
258.0	260.0	Fine to coarse grained brown strongly oxidized	0.0	3					215542	0.004	0.001
260.0	262.0		0.0	4	BED	10	70		215543	0.004	0.001
262.0	267.9			1				Composite Sampled: last 15cm of each row in the box is sampled whole in a composite which represents the entire box.	215544	0.004	0.001
267.9	273.4			2					215545	0.005	0.001
273.4	279.1	Fine to coarse grained brown intensely oxidized		2					215546	0.003	0.001
279.1	284.5	Fine to coarse grained brown strongly oxidized	0.5	2					215547	0.004	0.001
284.5	290.1		0.5	3					215548	0.005	0.008
290.1	295.8			2					215549	0.005	0.001
295.8	301.1			3				Some carbonate infilling around clasts.	215550	0.005	0.007
301.1	307.0			2					215551	0.006	0.005
307.0	312.3			1				Clast of bladed feldspar porphyry. Clast of chert.	215553	0.008	0.006
312.3	317.9			1				Large basalt clast ~25cm in diameter.	215554	0.005	0.001
317.9	323.3		0.5	2					215555	0.007	0.001
323.3	328.8			2					215556	0.007	0.001
328.8	334.7		0.5	1					215557	0.008	0.001
334.7	340.5			2					215558	0.007	0.001
340.5	346.0			1	BED	15	70		215559	0.007	0.001
346.0	351.5	Fine to coarse grained brown intensely oxidized		2				Clast of chert. Some carbonate infillling around clasts.	215560	0.005	0.001
351.5	357.5			2					215561	0.008	0.001
357.5	362.7			1					215562	0.008	0.001
362.7	368.1			4				60 cm section of Tuff made up of well rounded lithic fragments <3mm in diameter	215563	0.005	0.005

Hole Number: KB-05-04

From	To	Rock Type	Py-Cpy-Mt	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
368.1	373.1	Fine to coarse grained brown intensely oxidized		*2*		End of hole.	215564	0.007	0.051

Hole Number: KB-05-05

From	To	Rock Type	Py-Cpy-Mt	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
0	30.5	**CASING**							
0.0	30.5								
30.5	217	**HETEROGENEOUS HETEROLITHIC CONGLOMERATE**							
30.5	36.5	Fine to coarse grained brown intensely oxidized		1		Framework supported Conglomerate made up of ~70% well rounded intrusive (granite) clasts and 20% andesitic/basaltic clasts, likely of Tackla origin. Minor clasts of bladed feldspar porphyry and chert as well. Local infilling of calcite around clasts. Alteration is predominantly stong oxidization with a section of strong propyllitic alteration near the bottom of the unit. Composite Sampled: last 15cm of each row in the box is sampled whole in a composite which represents the entire box.	215576	0.002	0.001
36.5	38.5			1			215577	0.002	0.001
38.5	40.5			1			215578	0.003	0.001
40.5	47.9			1					
47.9	53.8	Fine to coarse grained brown strongly oxidized		1			215579	0.003	0.001
53.8	59.3		0.1	2		Small amount of magnetite in igneous clasts.	215580	0.003	0.001
59.3	64.6		0.2	2			215581	0.004	0.001
64.6	71.0			1			215582	0.005	0.001
71.0	77.0			1			215583	0.004	0.001
77.0	82.8			2			215584	0.004	0.001
82.8	88.8			2			215585	0.006	0.001
88.8	95.2		0.1	2			215586	0.005	0.001
95.2	100.7			2		Clast of chert ~6cm long and clast of dacite ~15cm in diameter.	215587	0.006	0.001
100.7	105.9		0.2	2			215588	0.005	0.001

Hole Number: KB-05-05

From	To	Rock Type	Py-Cpy-Mt			Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
105.9	112.0	Fine to coarse grained brown strongly oxidized			0.1	*1*					215589	0.008	0.001
112.0	117.4				0.1	*2*				Clast of bladed feldspar porphyry ~10cm in diameter.	215590	0.007	0.001
117.4	123.1				0.0	*1*				Clast of felspar porphyry with euhedral feldspar crystals.	215591	0.006	0.001
123.1	128.8					*1*					215592	0.006	0.001
128.8	134.5					*1*	DYK	75	1	Porphorytic dyke? About 10cm thick-possibbly a clast?	215593	0.007	0.005
134.5	140.8					*3*					215594	0.016	0.005
140.8	146.0					*2*	DYK	65	5	Porphyritic dyke with a 2cm thick chill margin at the lower contact. Upper contact shows no evidence of cooling or baking. Possible unconformity.	215595	0.005	0.023
146.0	151.3				0.1	*2*				Section of carbonate infilling around clasts.	215596	0.007	0.001
151.3	156.8				0.2	*1*					215597	0.006	0.001
156.8	162.6		0.1		0.2	*2*				Clast of Basalt ~15cm in diameter with a trace of pyrite.	215598	0.006	0.001
162.6	168.6					*2*					215599	0.009	0.001
168.6	173.6					*1*					215600	0.004	0.001
173.6	179.4				0.5	*2*					215602	0.003	0.005
179.4	186.5				0.2	*2*					215603	0.006	0.001
186.5	192.5					*3*					215604	0.006	0.001
192.5	197.9					*2*				Angular clasts of bladed feldspar porphyry.	215605	0.004	0.001
197.9	205.5					*3*					215606	0.022	0.001
205.5	211.0	Fine to coarse grained green strongly propyllitic				*4*					215607	0.007	0.001
211.0	213.0					*2*				Sampling in 2m intervals.	215608	0.009	0.016
213.0	215.0					*4*					215609	0.008	0.001
215.0	217.0	Fine to medium grained green grey moderately propyllitic	0.1			*4*					215610	0.005	0.001

217	223	**POORLY BEDDED ANDESITE TUFF**

Hole Number: KB-05-05

From	To	Rock Type	Py-Cpy-Mt		Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
217.0	219.0	Very fine to fine grained dark grey moderately phyllic	1.0		7	PYV	55	0.1	Intermediate volcanic autobreccia. Graded contacts defined by textural changes from poorly bedded to mottled with augite-chlorite phenocrysts. At depth, calcite replaces anhedral feldspar phenocrysts. Deeper sections are stockworked with calite and zeolite. Pyrite occurs as very fine disseminations throughout and in rare high angle veins with calcite. Alteration is phyllic at shallower depths and becomes increasingly silicic with depth.	215611	0.003	0.001
219.0	221.0			5.0	39	CALV	20	1		215612	0.003	0.001
221.0	223.0			3.0	43	CALV	10	0.1		215613	0.003	0.001
223	261	**MOTTLED ANDESITIC AUGITE PORPHYRY FLOW**										
223.0	225.0	Very fine to fine grained dark grey moderately phyllic	0.5	3.0	39	CALPY	70	0.1	Majority of blocks in volcanic breccia contain up to 5% anhedral Augite phenocrysts to 4mm, 50% altered to chlorite.	215614	0.002	0.001
225.0	227.0		1.0	3.0	40	CALZV	40	1		215615	0.003	0.001
227.0	229.0		0.2	3.0	43					215616	0.003	0.001
229.0	231.0		1.0	3.0	40	CALV	20	0.1		215617	0.002	0.001
231.0	233.0		1.0	3.0	43	ZV	45	1		215618	0.002	0.001
233.0	235.0		0.5	3.0	43					215619	0.003	0.001
235.0	237.0		2.0	5.0	48	PYSEV	60	2	Pyrite-sericite-epidote vein.	215620	0.004	0.001
237.0	239.0		0.5	3.0	47	CALPY	40	0.1		215621	0.003	0.001
239.0	241.0		0.3	2.0	47	CALPY	30	0.1		215622	0.003	0.001
241.0	243.0		0.1	2.0	42	ZV	30	2		215623	0.003	0.001
243.0	245.0	Very fine to fine grained dark grey moderately propyllitic	0.3	2.0	33				Serpentine appears.	215624	0.004	0.001
245.0	247.0		0.1	3.0	40					215625	0.003	0.001
247.0	249.0	Very fine to fine grained dark grey moderately phyllic	0.1	2.0	34					215626	0.004	0.001

Hole Number: KB-05-05

From	To	Rock Type	Py-Cpy-Mt			Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
249.0	251.0	Very fine to fine grained dark grey moderately phyllic			3.0	*44*					215628	0.003	0.001
251.0	253.0				2.0	*34*	CALZV	40	0.1		215629	0.004	0.001
253.0	255.0				2.0	*25*	CALV	45	0.1		215630	0.003	0.001
255.0	257.0		0.2		2.0	*33*	CALPY	20	0.1		215631	0.003	0.001
257.0	259.0		0.2		2.0	*38*	CALPY	45	1		215632	0.002	0.001
259.0	261.0		0.2		2.0	*38*					215633	0.004	0.001
261	325	**MOTTLED ANDESITIC AUGITE PORPHYRY TUFF**											
261.0	263.0	Very fine to medium grained grey strongly silicified (non-K)	2.0		3.0	*30*	PYZV	30	2	Contains up to 5% anhedral Augite phenocrysts to 4mm, 50% altered to chlorite.	215634	0.004	0.001
263.0	265.0		1.5		3.0	*39*	PYCAL	45	1		215635	0.004	0.001
265.0	267.0		3.0		3.0	*40*	CALPY	45	3		215636	0.004	0.001
267.0	269.0		3.0		3.0	*40*	PYV	70	0.1		215637	0.004	0.001
269.0	271.0		1.5		2.0	*39*	PYCAL	45	1		215638	0.004	0.001
271.0	273.0		1.5		3.0	*39*	PYCAL	30	0.1		215639	0.004	0.001
273.0	275.0		3.0		2.0	*31*	PYCAL	35	0.1		215640	0.004	0.001
275.0	277.0		5.0		2.0	*41*	QCALV	25	1	Increase in pyrite: fine grained disseminated pyrite throughout.	215641	0.004	0.001
277.0	279.0		5.0		2.0	*35*	PYCAL	60	1		215642	0.004	0.001
279.0	281.0		3.0		2.0	*26*	PYCAL	70	0.1		215643	0.004	0.001
281.0	283.0		3.0		3.0	*39*	CALPY	45	0.1		215644	0.004	0.001
283.0	285.0		5.0		2.0	*27*	CALV	45	1		215645	0.004	0.001
285.0	287.0		3.0		2.0	*30*					215646	0.004	0.001
287.0	289.0		3.0		2.0	*32*	PYCAL	25	1		215647	0.004	0.001
289.0	291.0		3.0		2.0	*33*	CALV	20	1		215648	0.004	0.001
291.0	293.0		4.0		3.0	*32*	CALV	55	1		215649	0.004	0.001

Kemess Bear 2005 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: KB-05-05

From	To	Rock Type	Py	Cpy-Mt	Ms	Veins	°tca	%	Comments	Sample#	Cu %	Au ppm
293.0	295.0	Very fine to medium grained grey strongly silicified (non-K)	4.0	3.0	36	CALV	65	0.1		215650	0.004	0.001
295.0	297.0		4.0	3.0	38	CALPY	20	0.1		215651	0.005	0.001
297.0	299.0		3.0	3.0	27				Clast of basalt with carbonate infilling around it.	215652	0.003	0.001
299.0	301.0		3.0	3.0	31	PYV	70	0.1		215654	0.004	0.001
301.0	303.0		4.0	3.0	34				Local section with strong potassic alteration.	215655	0.003	0.001
303.0	305.0		3.0	1.0	39					215656	0.004	0.001
305.0	307.0		4.0	3.0	41					215657	0.003	0.001
307.0	309.0		4.0	2.0	40	CALV	70	0.1		215658	0.004	0.001
309.0	311.0		5.0	2.0	39					215659	0.004	0.001
311.0	313.0		2.0	3.0	41	QV	20	1	Quartz vein with a potassic alteration halo.	215660	0.005	0.001
313.0	315.0		2.0	3.0	41	CALPY	20	1		215661	0.004	0.001
315.0	317.0		3.0	3.0	34	CALV	45	1	Potassic altered calcite vein-brick red in color.	215662	0.004	0.001
317.0	319.0		3.0	2.0	36	ZV	40	1		215663	0.005	0.001
319.0	321.0		4.0	2.0	36	FLT	70	5		215664	0.005	0.001
321.0	323.0		3.0	1.0	35	CALSV	25	2	Lenses of calcite replacing phenocrysts.	215665	0.005	0.001
323.0	325.0		2.0	2.0	39	ZV	30	2		215666	0.004	0.001
325	341.5	**MOTTLED ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA**										
325.0	327.0	Very fine to medium grained grey strongly silicified (non-K)	3.0	2.0	33	ZV	70	0.1	Zone where majority of blocks in volcanic breccia contain up to 5% anhedral Augite phenocrysts to 4mm, 50% altered to chlorite. Local section with mottled calcite replacing augite.	215667	0.004	0.001
327.0	329.0		4.0	1.0	20	CALV	60	5	Calcite replacing phenocrysts.	215668	0.004	0.001
329.0	331.0		3.0	2.0	33	CALV	60	10		215669	0.004	0.001
331.0	333.0		1.0	2.0	30	CALV	60	10		215670	0.005	0.001
333.0	335.0		0.5	1.0	28	CALV	60	10	Clast of basalt ~10cm in diameter.	215671	0.005	0.001
335.0	337.0		1.0	1.0	38	CALV	30	5		215672	0.005	0.001

Hole Number: KB-05-05

From	To	Rock Type	Py	Cpy-Mt	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
337.0	339.0	Very fine to medium grained grey strongly silicified (non-K)	2.0	2.0	*34*	CALV	20	5		215673	0.005	0.001
339.0	341.5		5.0	2.0	*36*	CALV	30	5		215674	0.005	0.001
341.5	345.2	**HETEROGENEOUS BASALT FLOW**										
341.5	343.0	Very fine to medium grained dark grey strongly silicified (non-K)	1.0	5.0	*44*	CALV	30	5	Homogeneous basalt flow. Aphanitic in texture with rare pyrite and high primary magnetite. Pyrite occurs as very fine grains in the groundmass.	215675	0.003	0.001
343.0	345.2		0.5	5.0	*41*	CALV	70	5	Some hematite in calcite vein.	215676	0.004	0.001
345.2	352.7	**MOTTLED ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA**										
345.2	347.0	Very fine to medium grained grey strongly silicified (non-K)	4.0	3.0	*34*	CALV	20	2	Similar to above.	215677	0.004	0.001
347.0	349.0	Very fine to medium grained dark grey strongly silicified (non-K)	4.0	2.0	*37*	CALV	20	5	Calcite vein cross cut by a smaller zeolite vein.	215678	0.005	0.001
349.0	351.0		3.0	2.0	*34*	CALV	30	6	Calcite-carbonate veins. Possibly quartz-adularia veins? Apple green colored alteration around the veins.	215680	0.004	0.001
351.0	352.7		3.0	2.0	*33*	CALV	60	5	End of hole.	215681	0.004	0.001

Hole Number: KB-05-06

From	To	Rock Type	Py-Cpy-Mt	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
0	21.3	**CASING**									
0.0	21.3										
21.3	41.5	**OVERBURDEN**									
21.3	41.5										
41.5	162	**FRAGMENTAL HETEROLITHIC CONGLOMERATE**									
41.5	47.6	Fine to coarse grained brown red strongly oxidized		*2*				Framework supported Conglomerate made up of ~70% well rounded intrusive (granite) clasts and 20% andesitic/basaltic clasts, likely of Tackla origin. Minor clasts of bladed feldspar porphyry and chert as well. Local infilling of calcite around clasts. Alteration is predominantly stong oxidization.	215701	0.008	0.001
47.6	52.3			*2*					215702	0.003	0.001
52.3	59.8			*1*					215703	0.004	0.001
59.8	65.2			*1*					215704	0.005	0.001
65.2	70.7			*1*				30cm section of welded tuff. Pebble sized lithic fragments welded together.	215705	0.005	0.001
70.7	76.4			*2*					215706	0.010	0.001
76.4	81.7			*1*					215707	0.007	0.001
81.7	87.2			*1*					215708	0.009	0.001
87.2	92.6			*2*					215709	0.008	0.001
92.6	98.4			*1*					215710	0.006	0.001
98.4	103.8			*2*					215711	0.006	0.001
103.8	111.5			*1*	BED	82	5	Bedded section about 30cm in length. Graded fine to medium grained with grain size increasing down hole.	215712	0.007	0.001
111.5	116.7			*1*					215713	0.007	0.009
116.7	121.9			*2*					215714	0.007	0.025
121.9	127.5			*5*					215715	0.006	0.001

Hole Number: KB-05-06

From	To	Rock Type	Py	Cpy	Mt	Ms	Veins	(°tca)	(%)	Comments	Sample#	Cu %	Au ppm
127.5	133.0	Fine to coarse grained brown red strongly oxidized				*2*					215716	0.005	0.001
133.0	138.9					*2*					215717	0.005	0.001
138.9	145.1					*3*					215718	0.005	0.001
145.1	151.6					*2*				Clasts of Bladed Feldspar Porphyry.	215719	0.007	0.011
151.6	158.7					*1*	FLT		10	Fault, caused loss of water pressure while drilling.	215720	0.020	0.005
158.7	160.0					*3*				Sampling in 2m intervals begins.	215721	0.005	0.001
160.0	162.0					*2*					215722	0.013	0.001
162	186	**SHEARED ANDESITE FLOW**											
162.0	164.0	Very fine to medium grained dark grey moderately phyllic				*0*				Intermediate volcanic autobreccia. Graded contacts defined by textural changes from porphyitic to mottled with augite-chlorite phenocrysts. Local vessicular sections with the vessicles infilled with calcite and pyrite. Local sections are stockworked with calite and also some local mosaic textures with cacite surrounding angular clasts.. Pyrite occurs as very fine disseminations as well as coarse grains in veins and on fracture surfaces. Alteration is phyllic at shallower depths. Graded contact. Sheared section rich in sericite and calcite followed by broken up dacite.	215723	0.004	0.001
164.0	166.0					*0*					215724	0.004	0.001
166.0	168.0					*0*					215725	0.004	0.001
168.0	170.0					*0*					215727	0.003	0.001
170.0	172.0	Very fine to medium grained dark grey strongly phyllic	5.0			*0*				Disseminated fine grained pyrite throughout.	215728	0.003	0.001
172.0	174.0		5.0			*0*					215729	0.004	0.001
174.0	176.0		3.0		0.0	*0*				Calcite and sericite infilling joints in the structure.	215730	0.003	0.001
176.0	178.0		1.0		1.0	*22*	CALV	60	5	Sharp increase in magnetic susceptibility. Increase happens suddenly with no change in texture.	215731	0.003	0.001

Hole Number: KB-05-06

From	To	Rock Type	Py	Cpy-Mt	Ms	Veins	(°tca	-%)	Comments	Sample#	Cu %	Au ppm
178.0	180.0	Very fine to medium grained grey strongly phyllic	3.0	2.0	*29*	CALSV	30	2	Some coarse pyrite grains in the sericite-calcite vein.	215732	0.003	0.001
180.0	182.0		7.0	2.0	*28*	CALV	30	2	Medium to coarse pyrite grains in fractures and veins.	215733	0.004	0.001
182.0	184.0		8.0	0.0	*1*	CALPY	30	3	Sharp decrease in magnetic susceptibility.	215734	0.004	0.001
184.0	186.0		10.0	0.0	*1*					215735	0.005	0.001
186	188	**PORPHYRITIC ANDESITE VOLCANIC BRECCIA**										
186.0	188.0	Very fine to medium grained grey strongly phyllic	8.0	0.2	*3*	CALV	30	1	Mottled clasts of Andesitic Augite Porphyry in an andesite ground mass.	215736	0.004	0.001
188	203.7	**MOTTLED BASALT FLOW**										
188.0	190.0	Very fine to medium grained dark grey strongly phyllic	7.0	1.0	*29*	CALV	20	2	Contact with basalt with pophyritic felpspar phenocrysts, partly replaced with calite and pyrite.	215737	0.006	0.001
190.0	192.0		3.0	2.0	*30*	CALV	25	5		215738	0.007	0.001
192.0	194.0		3.0	3.0	*39*	CALV	40	10	Quartz vein cross cut by calcite veins. Appearance of serpentine.	215739	0.007	0.001
194.0	196.0		3.0	3.0	*39*	PYCAL	10	1		215740	0.007	0.001
196.0	198.0		1.0	3.0	*46*	QV	55	0.1		215741	0.008	0.001
198.0	200.0		4.0	3.0	*41*	CALV	45	1		215742	0.007	0.001
200.0	202.0		4.0	3.0	*38*	CALV	40	5		215743	0.007	0.001
202.0	203.7		5.0	3.0	*26*	CALV	40	1		215744	0.006	0.001
203.7	212.4	**PORPHYRITIC ANDESITE VOLCANIC BRECCIA**										
203.7	206.0	Very fine to medium grained grey strongly phyllic	10.0		*1*	CALPY	10	2		215745	0.003	0.001
206.0	208.0		15.0		*1*				Pyrite rich Andesitic Augite Porphyry clasts with disseminated pyrite throughout. Vessicular texture with calcite and pyrite infilling voids.	215746	0.004	0.001
208.0	210.0		15.0		*1*					215747	0.002	0.001
210.0	212.4	Very fine to medium grained grey strongly silicified (non-K)	15.0		*0*	FLT	80	5		215748	0.002	0.001

Hole Number: KB-05-06

From	To	Rock Type	Py-Cpy-Mt		Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
212.4	215.5	**PORPHYRITIC BASALT FLOW**										
212.4	214.0	Very fine to medium grained dark grey strongly silicified (non-K)	10.0	1.0	*13*				Sharp contact with porphyritic basalt. Feldspar phenocrysts partly replaced by calcite and pyrite.	215749	0.002	0.001
214.0	215.5		1.0	3.0	*36*	CALV	70	0.1		215750	0.003	0.001
215.5	235	**PORPHYRITIC ANDESITE VOLCANIC BRECCIA**										
215.5	218.0	Very fine to medium grained grey strongly phyllic	12.0	1.0	*17*				Mosaic texture with calcite infilling the voids in the structure.	215201	0.003	0.001
218.0	220.0		15.0		*13*	CALPY	20	1	Massive well formed pyrite crystals in calcite veins. More mosaic texture similar to above.	215203	0.003	0.001
220.0	222.0		12.0		*12*					215204	0.003	0.001
222.0	224.0		12.0	1.0	*12*	PYV	15	1		215205	0.002	0.001
224.0	226.0		8.0	1.0	*22*	PYV	20	1		215206	0.003	0.001
226.0	228.0	Very fine to medium grained grey strongly propyllitic	5.0	2.0	*22*	CALV	20	5	Alteration changes to strong propyllitic. Increase in Chlorite and decrease in pyrite. Sheared/faulted section.	215207	0.003	0.001
228.0	230.0		3.0	4.0	*36*					215208	0.002	0.001
230.0	232.0		2.0	2.0	*30*	CALV	20	1		215209	0.002	0.001
232.0	234.0		7.0		*13*				Increase in pyrite. Mosaic texture similar to above with calcite infilling structures.	215210	0.003	0.001
234.0	235.0		8.0	1.0	*12*					215211	0.003	0.001
235	236.3	**PORPHYRITIC BASALT DYKE**										
235.0	236.3	Very fine to medium grained grey strongly phyllic	7.0	3.0	*23*	PYV	30	5	Sharp contact between basalt and andesite. Pyrite veins with intense phyllic alteration halos.	215212	0.002	0.001
236.3	251.1	**PORPHYRITIC ANDESITE VOLCANIC BRECCIA**										
236.3	238.0	Very fine to medium grained grey strongly phyllic	8.0	0.0	*1*	CALSV	15	2	Sharp contact between basalt dyke and andesite.	215213	0.003	0.001
238.0	240.0		8.0	0.0	*11*					215214	0.002	0.001
240.0	242.0		7.0	0.0	*12*	PYV	40	0.1		215215	0.002	0.001

Hole Number: KB-05-06

From	To	Rock Type	Py	Cpy	Mt	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
242.0	244.0	Very fine to medium grained grey strongly phyllic	1.0		0.5	12	DYK	45	25	50cm long porphyritic basalt dyke with feldspar phenocrysts.	215216	0.003	0.001
244.0	246.0		0.5			9				Section becomes rubbly at 244.8m. Section of marbles and a section of clay and mud.	215217	0.002	0.001
246.0	248.0		5.0		0.5	12	CALPY	10	10	Local calcite stockworking rich in pyrite.	215218	0.004	0.001
248.0	250.0		0.1		0.5	20				Mosaic texture similar to above with calcit and carbonate infilling.	215219	0.003	0.001
250.0	251.1		0.0		1.0	11					215220	0.002	0.001
251.1	**252**	**MOTTLED ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA**											
251.1	252.0	Very fine to medium grained grey strongly phyllic	0.0		4.0	21				Intermediate volcanic blocky fragmental autobreccia. Majority of blocks in volcanic breccia contain up to 5% anhedral Augite phenocrysts to 4mm, 50% altered to chlorite.	215221	0.003	0.001
252	**254.5**	**PORPHYRITIC BASALT VOLCANIC BRECCIA**											
252.0	254.0	Very fine to medium grained grey strongly phyllic	0.0		2.0	29	CALV	5	10	Same as described above.	215222	0.003	0.001
254.0	254.5	Very fine to medium grained dark grey strongly phyllic	0.0		0.0	10				End of hole.	215223	0.002	0.001

Hole Number: KB-05-07

From	To	Rock Type	Py-Cpy-Mt (Py)	(Cpy-Mt)	Ms	Veins (°tca-%) (Type)	(°tca)	(%)	Comments	Sample#	Cu %	Au ppm
0	36.6	**CASING**										
0.0	36.6											
36.6	50.9	**OVERBURDEN**										
36.6	50.9	strongly phyllic	0.0	0.0	*10*							
50.9	65	**MASSIVE BASALT FLOW**										
50.9	53.0	Very fine to medium grained dark grey strongly phyllic	7.0	0.5	*38*				Homogeneous basalt flow. Aphanitic in texture.	215226	0.002	0.001
53.0	55.0		7.0	2.0	*32*					215227	0.002	0.001
55.0	57.0		8.0	3.0	*34*	PYV	45	2	Several pyrite stringers throughout.	215228	0.002	0.001
57.0	59.0		10.0	2.0	*32*	PYV	30	2		215229	0.002	0.001
59.0	61.0		10.0	4.0	*29*				75cm section of Andesite.	215230	0.002	0.001
61.0	63.0		8.0	4.0	*47*					215231	0.002	0.001
63.0	65.0		8.0	5.0	*43*	PYV	5	2		215232	0.003	0.001
65	78.7	**STOCKWORKED ANDESITE VOLCANIC BRECCIA**										
65.0	67.0	Very fine to medium grained grey intensely phyllic	10.0		*0*	PYALV	10	8	Pyrite-alunite(?) vein.	215233	0.003	0.011
67.0	69.0	Very fine to medium grained grey strongly phyllic	7.0		*0*	PYV	15	0.1		215234	0.002	0.028
69.0	71.0	Very fine to medium grained grey intensely phyllic	8.0		*0*	PYV	20	1	Apatite(hard, translucent, light green)-alunite vein. Local section with vugs infilled with gypsum crystals.	215235	0.001	0.038
71.0	73.0		8.0	4.0	*27*	FLT	50	5	Magnetite in a pyrite vein.	215236	0.002	0.006
73.0	75.0		3.0		*1*	QSV	20	5	Hematite occurring in fractures.	215237	0.001	0.001
75.0	77.0	Very fine to medium grained grey strongly phyllic	3.0		*0*					215238	0.001	0.001
77.0	78.7	Very fine to medium grained grey intensely silicified (non-K)	7.0		*0*	QALV	20	3		215239	0.001	0.008
78.7	80.3	**HETEROGENEOUS QUARTZ VEIN**										

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From	To	Rock Type	Py-Cpy-Mt		Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
78.7	80.3	Very fine to medium grained light grey intensely silicified (non-K)	3.0		0	QAPV	10	95	Massive quartz-apatite vein with alunite.	215240	0.001	0.023
80.3	104	**STOCKWORKED ANDESITE VOLCANIC BRECCIA**										
80.3	82.0	Very fine to medium grained grey moderately phyllic	5.0		0	CALV	10	2	Appearance of calcite.	215241	0.001	0.007
82.0	84.0		5.0		0	CALV	15	5		215242	0.001	0.006
84.0	86.0	Very fine to medium grained grey strongly phyllic	5.0		0	PYQV	45	0.1	Appearance of serpentine.	215243	0.001	0.001
86.0	88.0		2.0		3	QV	30	1		215244	0.001	0.001
88.0	90.0	Very fine to medium grained grey moderately phyllic	5.0		10	CHLPY	30	2	Strong propyllitic alteration halo around chlorite-pyrite vein.	215245	0.001	0.001
90.0	92.0	Very fine to medium grained grey moderately propyllitic	3.0	0.5	17					215246	0.001	0.001
92.0	94.0	Very fine to medium grained grey strongly phyllic	7.0	1.5	26	QPYV	30	3		215247	0.002	0.001
94.0	96.0	Very fine to medium grained grey moderately phyllic	7.0	0.5	18	PYV	5	2		215248	0.002	0.001
96.0	98.0		8.0	2.0	28	PYV	30	2		215249	0.002	0.001
98.0	100.0	Very fine to medium grained grey strongly phyllic	5.0	0.5	14	CALV	10	2		215250	0.001	0.005
100.0	102.0	Very fine to medium grained grey moderately phyllic	5.0	2.0	24					216502	0.001	0.008
102.0	104.0		5.0	0.5	18	CHLV	20	2		216503	0.001	0.001
104	110.2	**STOCKWORKED BASALT VOLCANIC BRECCIA**										
104.0	106.0	Very fine to medium grained dark grey moderately phyllic	5.0	1.0	16	CALV	25	5	Graded contact between andesite and basalt.	216504	0.002	0.001
106.0	108.0		3.0	5.0	48	CALV	30	8		216505	0.002	0.001
108.0	110.2	Very fine to medium grained dark grey strongly phyllic	8.0	4.0	42	PYV	30	5	Stockworked with pyrite veinlets.	216506	0.002	0.001
110.2	111.4	**STOCKWORKED ANDESITE VOLCANIC BRECCIA**										

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From	To	Rock Type	Py	Cpy-Mt	Ms	Veins	(°tca	-%)	Comments	Sample#	Cu %	Au ppm
110.2	111.4	Very fine to medium grained grey strongly phyllic	7.0	2.0	8	PYV	30	2	Intermediate volcanic blocky fragmental autobreccia.	216507	0.002	0.001
111.4	113	**STOCKWORKED BASALT VOLCANIC BRECCIA**										
111.4	113.0	Very fine to medium grained dark grey strongly phyllic	7.0	5.0	46	PYV	30	5	Sharp contact between basalt and andesite. Pyrite veinlets all trending parallel to each other at 30 degrees.	216508	0.002	0.001
113	128.8	**STOCKWORKED ANDESITE VOLCANIC BRECCIA**										
113.0	114.0	Very fine to medium grained grey moderately phyllic	8.0	1.5	31	PYV	30	5		216509	0.002	0.001
114.0	116.0		8.0	2.0	22	PYV	30	2		216510	0.003	0.005
116.0	118.0		5.0	0.0	1	FLT	45	5		216511	0.002	0.001
118.0	120.0	Very fine to medium grained grey moderately propyllitic	5.0		0	PYSV	30	1	Serpentine in fracture surfaces.	216512	0.003	0.001
120.0	122.0		8.0		0	PYV	40	2		216513	0.004	0.001
122.0	124.0	Very fine to medium grained grey strongly phyllic	10.0		0	QPYV	40	10	Massive quartz-pyrite vein.	216514	0.002	0.013
124.0	126.0		7.0	0.1	17	SV	30	0.1		216515	0.002	0.005
126.0	128.8	Very fine to medium grained grey moderately phyllic	7.0		0	PYCAL	30	2	Fault 20 degrees to core axis infilled with sericite and pyrite.	216516	0.003	0.005
128.8	131	**STOCKWORKED BASALT VOLCANIC BRECCIA**										
128.8	130.0	Very fine to medium grained dark grey strongly phyllic	10.0	5.0	46	PYV	30	8	Graded contact from andesite to asalt. Several pyrite veinlets similar to above.	216517	0.002	0.001
130.0	131.0		5.0	2.0	33	CALV	30	1		216518	0.002	0.001
131	132.4	**HETEROGENEOUS QUARTZ VEIN**										
131.0	132.4	Fine to coarse grained light grey intensely silicified (non-K)	8.0		1	QV	25	99	Large quartz vein with apatite crystals at 25 degrees to core axis. Well formed, translucent, apple green in color. Local zones of massive pyrite in the vein.	216519	0.001	0.014
132.4	148	**SHEARED ANDESITE VOLCANIC BRECCIA**										
132.4	134.0	Very fine to coarse grained grey intensely phyllic	7.0	0.5	10				Same as described above.	216520	0.001	0.006

Hole Number: KB-05-07

From	To	Rock Type	Py	Cpy	Mt	Ms	Veins	°tca	%	Comments	Sample#	Cu %	Au ppm
134.0	136.0	Very fine to coarse grained grey strongly phyllic	5.0		2.0	34					216521	0.001	0.008
136.0	138.0		3.0		2.0	35	QPYV	70	2	Decrease in pyrite.	216522	0.001	0.001
138.0	140.0		2.0		3.0	40	PYV	30	0.1		216523	0.001	0.001
140.0	142.0	Very fine to coarse grained grey intensely phyllic	3.0		0.0	2	QPYV	30	1	Intense calcite stockworking. Veins are at low angles to core axis and locally contain a minor amount of pyrite.	216524	0.001	0.001
142.0	144.0		1.0			1	CALV	30	10		216525	0.001	0.001
144.0	146.0		2.0		0.5	12	CALV	15	10		216526	0.001	0.001
146.0	148.0	Very fine to coarse grained grey strongly phyllic	0.5		1.5	36	CALV	30	5		216528	0.001	0.001
148	150	**STOCKWORKED BASALT FLOW**											
148.0	150.0	Very fine to coarse grained dark grey moderately phyllic	2.0		2.0	38	CALV	15	15	Sharp contact between andesite and basalt. Same as described above.	216529	0.001	0.001
150	151.7	**STOCKWORKED ANDESITE FLOW**											
150.0	151.7	Very fine to coarse grained grey strongly phyllic	4.0		1.0	31	CALV	15	10	Faulted contact between basalt and andesite. Same as described above.	216530	0.002	0.001
151.7	161.5	**STOCKWORKED BASALT FLOW**											
151.7	154.0	Very fine to coarse grained dark grey moderately phyllic	7.0		5.0	31	MV	50	2	Several magnetite veinlets near contact between andesite and basalt. Same as described above.	216531	0.002	0.005
154.0	156.0		5.0		3.0	38	CALV	10	8		216532	0.001	0.001
156.0	158.0		5.0		3.0	38	CALPY	30	1	Zeolite vein 60 º to core axis .	216533	0.001	0.001
158.0	160.0		5.0		3.0	33	MTPYV	40	1		216534	0.002	0.001
160.0	161.5	Very fine to coarse grained dark grey strongly phyllic	0.1		1.5	32	CALV	20	10	Local section with a mosaic texture.	216535	0.001	0.001
161.5	164	**STOCKWORKED ANDESITE FLOW**											
161.5	164.0	Very fine to coarse grained grey strongly phyllic	5.0			1	QV	55	3	Same as described above.	216536	0.002	0.011
164	254	**STOCKWORKED BASALT FLOW**											

Hole Number: KB-05-07

From	To	Rock Type	Py	Cpy	Mt	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
164.0	166.0	Very fine to coarse grained dark grey strongly phyllic	3.0		2.0	*31*	CALV	10	0.1	Broken-up section. Same as described above.	216537	0.002	0.001
166.0	168.0	Very fine to coarse grained dark grey moderately phyllic	1.0		1.0	*32*					216538	0.002	0.001
168.0	170.0		2.0		1.0	*30*					216539	0.002	0.001
170.0	172.0	Very fine to coarse grained dark grey strongly phyllic	4.0		0.5	*15*	FLT	45	20		216540	0.001	0.001
172.0	174.0		5.0		2.0	*37*					216541	0.003	0.001
174.0	176.0	Very fine to coarse grained dark grey weakly phyllic	5.0		7.0	*62*	PYV	20	1	Phyllic alteration is extremely weak and confined to partial alteration of felspars. No groundmass involved (FCE).	216542	0.003	0.001
176.0	178.0		5.0		7.0	*61*	PYV	35	1		216543	0.003	0.001
178.0	180.0		4.0		3.0	*46*	PYV	5	0.1		216544	0.001	0.001
180.0	182.0		4.0		2.0	*45*	PYCAL	20	0.1		216545	0.001	0.001
182.0	184.0		5.0		2.0	*35*	CALV	30	5		216546	0.001	0.001
184.0	186.0		5.0		2.0	*32*	CALV	10	1		216547	0.001	0.001
186.0	188.0		5.0		3.0	*43*					216548	0.001	0.001
188.0	190.0		3.0		1.0	*20*					216549	0.002	0.001
190.0	192.0		2.0		3.0	*45*	CALV	20	0.1		216550	0.001	0.001
192.0	194.0		7.0		1.0	*29*	PYV	10	3	Several pyrite veinlets in a local section.	216551	0.002	0.001
194.0	196.0	Very fine to coarse grained dark grey moderately phyllic	4.0		5.0	*47*	MTV	30	3	Local section with several magnetite veinlets. Alteration change is due to logger change - alteration assemblage is the same.	216552	0.002	0.001
196.0	198.0	Very fine to coarse grained dark grey weakly potassic - biotite	1.0		5.0	*32*				Alteration looks to be very weak; colour suggests fine grained secondary pyrite. Some sections are amygdular, while others show weak sericitic alteration of felspar phenocrysts. Mafics are fresh to weakly chlorite-sericite altered. Similar to 246.0m at least. Rock is 70:30 groundmass to phenocryst with phenos being split 60:40 felspars to black fresh augite.	216554	0.002	0.001

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From	To	Rock Type	Py-Cpy-Mt		Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
198.0	200.0	Very fine to coarse grained dark grey weakly potassic - biotite	1.0	10.0	40				Minor biotite-magnetite veinlet at 199.23m.	216555	0.002	0.001
200.0	202.0		1.0	10.0	50	JNT	10	5		216556	0.002	0.001
202.0	204.0		1.0	8.0	28				25cm thick sericite-quartz altered section at 203.2m with overprinting calcite veinlets over 10cms. Trace to nil pyrite.	216557	0.002	0.005
204.0	206.0		1.0	10.0	50					216558	0.002	0.001
206.0	208.0		1.0	10.0	41					216559	0.002	0.001
208.0	210.0		1.0	8.0	25	CALV	20	0.1		216560	0.002	0.001
210.0	212.0		1.0	5.0	4	CALV	10	0.1	Carbonate veinlet zone associated with slip or fault structure - abundant broken core at 210.5m.	216561	0.002	0.001
212.0	214.0		1.0	5.0	14					216562	0.002	0.001
214.0	216.0	Fine to medium grained dark grey weakly potassic - biotite	2.0	5.0	9	PYV	15	2	Pyrite desseminations over 10cms at 216m associated with healed fault/slip structure.	216563	0.002	0.001
216.0	218.0		1.0	5.0	5					216564	0.002	0.001
218.0	220.0		2.0	10.0	34	CALKV	30	15	Bleached K-spar-calcite vein at 218.7 - 219.1m. Trace pyrite on selvages.	216565	0.001	0.001
220.0	222.0		1.0	10.0	51					216566	0.001	0.001
222.0	224.0	Very fine to coarse grained dark grey weakly potassic - biotite	1.0	10.0	48					216567	0.001	0.001
224.0	226.0		1.0	10.0	43				10cm basaltic xenolith or inclusion in massive volcanic unit at 225.8m.	216568	0.002	0.001
226.0	228.0		1.0	10.0	51	CALKV	20	2	Fracture at 227.69m	216569	0.002	0.001
228.0	230.0		1.0	10.0	34	CALKV	10	2		216570	0.002	0.001
230.0	232.0		3.0	10.0	25	FZ	45	5	Fault zone with 5cms gouge at 230.53m; Carbonate veinlet with distinctive pink (zeolite-K-spar) minerals running down core axis at 232m and 231.5m.	216571	0.002	0.001
232.0	234.0		3.0	10.0	41				Minor vuggy quartz-calcite veinlets.	216572	0.002	0.001
234.0	236.0		1.0	10.0	44					216573	0.001	0.001

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From	To	Rock Type	Py-Cpy-Mt		Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
236.0	238.0	Very fine to coarse grained dark grey weakly potassic - biotite	1.0	10.0	45	QCALV	30	1	Veinlet and fracture surface at 233.25m. Veinlets are 1 cm wide and show similar width of lighter grey selvage.	216574	0.002	0.001
238.0	240.0		1.0	8.0	26	PYV	20	1	Thin biotite selvaged pyrite veinlets at 239.0m.	216575	0.002	0.001
240.0	242.0		1.0	10.0	31					216576	0.002	0.001
242.0	244.0		1.0	10.0	54					216577	0.002	0.001
244.0	246.0		1.0	10.0	41					216578	0.002	0.001
246.0	248.0	Fine to medium grained dark grey weakly potassic - biotite	1.0	10.0	45					216580	0.001	0.001
248.0	250.0		1.0	10.0	45					216581	0.002	0.001
250.0	252.0		1.0	10.0	45					216582	0.002	0.001
252.0	254.0		1.0	10.0	25	FLT	60	10	Strong zeolite in fault zone fractures	216583	0.002	0.001
254	256	**STOCKWORKED BASALT FAULT ZONE**										
254.0	256.0	Fine to medium grained dark grey weakly potassic - biotite	1.0	1.0	10	FLT	60	75	20cm gouge, 50 cm rubble. 30cm intense zeolite stockwork zone, mosaic texture.	216584	0.002	0.010
256	348.4	**STOCKWORKED BASALT FLOW**										
256.0	258.0	Fine to medium grained dark grey weakly potassic - biotite	1.0	10.0	50				Same as described above.	216585	0.002	0.001
258.0	260.0		1.0	10.0	40					216586	0.002	0.001
260.0	262.0		1.0	10.0	40					216587	0.002	0.001
262.0	264.0		1.0	10.0	40					216588	0.001	0.001
264.0	266.0		1.0	10.0	40					216589	0.001	0.001
266.0	268.0		1.0	10.0	40					216590	0.001	0.001
268.0	270.0		1.0	10.0	40	ZSTK	45	2		216591	0.002	0.001
270.0	272.0		1.0	10.0	40					216592	0.002	0.001
272.0	274.0		1.0	10.0	40					216593	0.002	0.001
274.0	276.0		1.0	10.0	40	CALZS	30	10		216594	0.002	0.001
276.0	278.0		1.0	10.0	40					216595	0.002	0.001

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From	To	Rock Type	Py-Cpy-Mt		Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
278.0	280.0	Fine to medium grained dark grey weakly potassic - biotite	1.0	10.0	*40*					216596	0.001	0.001
280.0	282.0	Fine to medium grained grey weakly propyllitic	1.0	10.0	*40*				Minor epidote in calcite veins, chlorite selvages continue.	216597	0.002	0.001
282.0	284.0		1.0	10.0	*40*	QCHLV	35	5		216598	0.002	0.001
284.0	286.0		1.0	10.0	*40*					216599	0.002	0.001
286.0	288.0		1.0	10.0	*40*	CALV	20	10		216600	0.001	0.001
288.0	290.0		1.0	10.0	*40*					216601	0.001	0.001
290.0	292.0		1.0	10.0	*40*	CALEV	20	5		216602	0.002	0.001
292.0	294.0		1.0	10.0	*40*					216603	0.002	0.001
294.0	296.0		1.0	10.0	*40*				Amygdular sections to 20%.	216604	0.001	0.001
296.0	298.0		1.0	10.0	*40*					216606	0.002	0.001
298.0	300.0		1.0	10.0	*40*					216607	0.002	0.001
300.0	302.0		1.0	10.0	*40*					216608	0.002	0.001
302.0	304.0		1.0	10.0	*40*					216609	0.003	0.001
304.0	306.0		1.0	10.0	*40*	FLT	20	30		216610	0.002	0.001
306.0	308.0		1.0	10.0	*40*	ZCALV	30	5		216611	0.002	0.001
308.0	310.0		1.0	10.0	*40*					216612	0.002	0.001
310.0	312.0		1.0	10.0	*40*					216613	0.002	0.001
312.0	314.0		1.0	10.0	*40*	FLT	30	2		216614	0.002	0.001
314.0	316.0		1.0	10.0	*40*					216615	0.002	0.001
316.0	318.0		1.0	10.0	*40*	EV	45	2		216616	0.002	0.001
318.0	320.0		1.0	5.0	*20*				Local magnetite destructive zones.	216617	0.002	0.001
320.0	322.0		1.0	5.0	*20*				30cm marbles, local rock type.	216618	0.004	0.001
322.0	324.0		1.0	5.0	*20*					216619	0.002	0.001
324.0	326.0		1.0	5.0	*20*	CALSR	60	25		216620	0.002	0.001

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From	To	Rock Type	Py-Cpy-Mt		Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
326.0	328.0	Fine to medium grained grey weakly propyllitic	1.0	5.0	*20*					216621	0.002	0.001
328.0	330.0		1.0	5.0	*20*					216622	0.002	0.001
330.0	332.0		1.0	5.0	*20*					216623	0.002	0.001
332.0	334.0		1.0	5.0	*20*					216624	0.001	0.001
334.0	336.0		1.0	5.0	*20*					216625	0.002	0.001
336.0	338.0		0.1	1.0	*10*					215566	0.001	0.001
338.0	340.0		0.1	1.0	*10*					215567	0.001	0.001
340.0	342.0		0.1	1.0	*10*					215568	0.001	0.001
342.0	344.0		0.1	1.0	*10*	CALZV	20	10		215569	0.002	0.007
344.0	345.5		0.1	1.0	*10*					215570	0.001	0.001
345.5	347.0		0.1	1.0	*10*					215571	0.002	0.001
347.0	348.4		0.1	1.0	*10*				End of hole.	215572	0.002	0.001

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From	To	Rock Type	Py-Cpy-Mt	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
0	4.6	**CASING**									
0.0	4.6										
4.6	20.2	**MOTTLED ANDESITE FLOW**									
4.6	6.0	Fine to medium grained green moderately propyllitic	3.0	*0*	CALV	30	1	Fine to medium grained andesite flow with mottled sericite phenocrysts that is from the Tackla group. Alteration is moderate propyllitic and quartz/sericite/pyrite. Veining is primarily low angle Quartz/Calcite with minor chlorite. Pyrite occurs as fine grained disseminations throughout the unit and as blebs in calcite/quartz veins. Rare chalcopyrite occurs as small blebs in calcite/quartz veins.	216626	0.014	0.001
6.0	8.0		1.0	*1*	QV	35	1		216627	0.017	0.001
8.0	10.0		2.0 **0.2**	*1*	QCALV	25	1	Chalcopyrite occurs in a quartz/calcite vein. Occurs as small blebs.	216628	0.016	0.005
10.0	12.0		2.0	*0*	QV	40	2		216629	0.013	0.001
12.0	14.0		2.5 **0.1**	*0*	QCALV	10	2	Chalcopyrite occurs in a quartz/calcite vein. Occurs as small blebs.	216630	0.014	0.001
14.0	16.0		3.0	*1*	QCALV	10	2		216631	0.020	0.005
16.0	18.0		5.0	*0*	QCALV	25	1		216632	0.016	0.001
18.0	20.2		1.0	*1*	CALV	20	2		216633	0.017	0.001
20.2	24	**PORPHYRITIC MONZONITE DYKE**									

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From	To	Rock Type	Py	Cpy	Mt	Ms	Veins	°tca	%	Comments	Sample#	Cu %	Au ppm
20.2	22.0	Fine to coarse grained green moderately potassic - quartz-chlorite	2.0			3				Sharp contact between Tackla andesite and a porphoritic monzonite dyke. Fine to coarse grained quartz-feldspar monzonite from the Black Lake intrusives. Mostly made up of quartz, feldspar and clorite phenocryts up to 5mm in diameter. Some of the chlorite phenocrysts have been partially altered to pyrite. Alteration is moderate to strong potassic (KQC) and moderate to strong propyllitic. Veining is predominantly low-mid angle quartz/calcite/chlorite. Several basaltic dykes cross cut the intrusion typically at angles around 40 degrees. Pyrite occurs as fine grained disseminations in chlorite and in coarser grains in the groundmass with grains up to 2mm in diameter. Rare chalcopyrite occurs in calcite/quartz veins as small blebs. The frequency of veins containing chalcopyrite was very low with chacopyrite only appearing in a few local zones.	216634	0.005	0.016
22.0	24.0		3.0	**0.2**		1	QV	10	5		216635	0.004	0.001
24	29	**MOTTLED ANDESITE FLOW**											
24.0	26.0	Fine to medium grained green moderately potassic - quartz-chlorite	3.0	**0.1**		0	QV	20	3	Fine to medium grained andesite flow with mottled sericite phenocrysts that is from the Tackla group. Alteration is moderate propyllitic and quartz/sericite/pyrite. Veining is primarily low angle Quartz/Calcite with minor chlorite. Pyrite occurs as fine grained disseminations throughout the unit and as blebs in calcite/quartz veins. Rare chalcopyrite occurs as small blebs in calcite/quartz veins.	216636	0.009	0.012
26.0	28.0		3.0	**0.3**		0	CALV	30	2		216637	0.017	0.015
28.0	29.0		7.0			1	FLT	25	10		216638	0.015	0.028
29	36	**PORPHYRITIC MONZONITE DYKE**											

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From	To	Rock Type	Py-Cpy-Mt	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
29.0	30.0	Fine to coarse grained green moderately potassic - quartz-chlorite	1.5	3	CALV	80	1	Fine to coarse grained quartz-feldspar monzonite from the Black Lake intrusives. Mostly made up of quartz, feldspar and clorite phenocryts up to 5mm in diameter. Some of the chlorite phenocrysts have been partially altered to pyrite. Alteration is moderate to strong potassic (KQC) and moderate to strong propyllitic. Veining is predominantly low-mid angle quartz/calcite/chlorite. Several basaltic dykes cross cut the intrusion typically at angles around 40 degrees. Pyrite occurs as fine grained disseminations in chlorite and in coarser grains in the groundmass with grains up to 2mm in diameter. Rare chalcopyrite occurs in calcite/quartz veins as small blebs. The frequency of veins containing chalcopyrite was very low with chacopyrite only appearing in a few local zones.	216639	0.004	0.001
30.0	32.0		1.0	4					216640	0.004	0.001
32.0	34.0		1.5	7				Calcite infilling voids in the structure.	216641	0.003	0.001
34.0	36.0		3.0	1	FLT	30	15		216642	0.009	0.066
36	54.6	**HETEROGENEOUS ANDESITE FLOW**									
36.0	38.0	Fine to medium grained green moderately potassic - quartz-chlorite	5.0	0	DYK	45	20	Fine to medium grained andesite flow with mottled sericite phenocrysts that is from the Tackla group. Alteration is moderate propyllitic and quartz/sericite/pyrite. Veining is primarily low angle Quartz/Calcite with minor chlorite. Pyrite occurs as fine grained disseminations throughout the unit and as blebs in calcite/quartz veins. Rare chalcopyrite occurs as small blebs in calcite/quartz veins.	216643	0.004	0.155
38.0	40.0		5.0	0	QV	20	2		216644	0.005	0.026
40.0	42.0		3.0	0	CALQV	25	1		216645	0.007	0.034
42.0	44.0		1.5	1					216646	0.007	0.001
44.0	46.0	Fine to medium grained green moderately potassic - quartz-sericite	2.5	1					216647	0.006	0.012

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From	To	Rock Type	Py	Cpy	Mt	Ms	Veins	°tca	%	Comments	Sample#	Cu %	Au ppm
46.0	48.0	Fine to medium grained green moderately potassic - quartz-sericite	3.0			1	QCALV	25	2		216648	0.005	0.001
48.0	50.0	Fine to medium grained green strongly potassic - quartz-sericite	3.0			0	SV	30	10		216649	0.005	0.111
50.0	52.0		3.0	**0.1**		0	AHV	45	1		216650	0.005	0.050
52.0	54.6		2.0			1	CALAH	45	2	Calcite/anhydrite vein has a significant amount of chlorite as well. Increase in MagS.	216652	0.006	0.001
54.6	**56.4**	**PORPHYRITIC MONZONITE DYKE**											
54.6	56.4	Fine to coarse grained grey strongly potassic - quartz-sericite	1.0			7	CALV	30	5	Contact with porphyritic dyke-similar to above. Fine to coarse grained quartz-feldspar monzonite from the Black Lake intrusives. Mostly made up of quartz, feldspar and clorite phenocryts up to 5mm in diameter. Some of the chlorite phenocrysts have been partially altered to pyrite. Alteration is moderate to strong potassic (KQC) and moderate to strong propyllitic. Veining is predominantly low-mid angle quartz/calcite/chlorite. Several basaltic dykes cross cut the intrusion typically at angles around 40 degrees. Pyrite occurs as fine grained disseminations in chlorite and in coarser grains in the groundmass with grains up to 2mm in diameter. Rare chalcopyrite occurs in calcite/quartz veins as small blebs. The frequency of veins containing chalcopyrite was very low with chacopyrite only appearing in a few local zones.	216653	0.006	0.001
56.4	**58**	**HETEROGENEOUS ANDESITE FLOW**											
56.4	58.0	Fine to medium grained green strongly potassic - quartz-sericite	2.0			0	AHV	50	2	Fine to medium grained andesite flow with mottled sericite phenocrysts that is from the Tackla group. Alteration is moderate propyllitic and quartz/sericite/pyrite. Veining is primarily low angle Quartz/Calcite with minor chlorite. Pyrite occurs as fine grained disseminations throughout the unit and as blebs in calcite/quartz veins. Rare chalcopyrite occurs as small blebs in calcite/quartz veins.	216654	0.009	0.005

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From	To	Rock Type	Py-Cpy-Mt	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
58	60	**HETEROGENEOUS ANDESITE FAULT ZONE**									
58.0	60.0	Fine to coarse grained green strongly potassic - quartz-sericite	10.0	0	QV	30	80	Section is a large quartz vein containing chlorite and pyrite. Pyrite occurs as blebs and is fine to medium grained.	216655	0.011	0.119
60	116.4	**PORPHYRITIC MONZONITE INTRUSIVE**									
60.0	62.0	Fine to coarse grained grey strongly potassic - quartz-sericite	3.0	0	AHCV	25	3	Wispy sericite and large chlorite phenocrysts	216656	0.001	0.008
62.0	64.0		2.0	0	CCALV	25	2	Fine to coarse grained quartz-feldspar monzonite from the Black Lake intrusives. Mostly made up of quartz, feldspar and clorite phenocryts up to 5mm in diameter. Some of the chlorite phenocrysts have been partially altered to pyrite. Alteration is moderate to strong potassic (KQC) and moderate to strong propyllitic. Veining is predominantly low-mid angle quartz/calcite/chlorite. Several basaltic dykes cross cut the intrusion typically at angles around 40 degrees. Pyrite occurs as fine grained disseminations in chlorite and in coarser grains in the groundmass with grains up to 2mm in diameter. Rare chalcopyrite occurs in calcite/quartz veins as small blebs. The frequency of veins containing chalcopyrite was very low with chacopyrite only appearing in a few local zones.	216657	0.004	0.001
64.0	66.0		2.0	0					216658	0.004	0.005
66.0	68.0		2.0	0	SV	10	2	Apple green fuchsite crystals present.	216659	0.002	0.001
68.0	70.0	Fine to coarse grained grey moderately potassic - quartz-sericite	4.0	0	QCALV	25	2		216660	0.005	0.018
70.0	72.0		4.0	0				Pyrite in chlorite clasts.	216661	0.004	0.018
72.0	74.0		6.0	0	FLT	50	2	Fault infilled with sericite and pyrite.	216662	0.004	0.015
74.0	76.0		6.0	0					216663	0.006	0.001
76.0	78.0		4.0	0					216664	0.005	0.010
78.0	80.0		4.0	0	QCALV	10	1		216665	0.008	0.015

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From	To	Rock Type	Py-Cpy-Mt	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
80.0	82.0	Fine to coarse grained grey moderately potassic - quartz-sericite	5.0	0	QCALV	20	2	Increase in epidote.	216666	0.003	0.018
82.0	84.0		4.0	1	CV	30	1		216667	0.004	0.016
84.0	86.0		2.0	1	DYK	50	15	30cm syentie dyke.	216668	0.019	0.001
86.0	88.0		2.5	1	QCV	40	3		216669	0.030	0.012
88.0	90.0		2.0	0	DYK	30	25	50cm Basaltic dyke.	216670	0.007	0.001
90.0	92.0		1.5	0	QV	30	2		216671	0.004	0.009
92.0	94.0	Fine to coarse grained grey moderately propyllitic	0.5	1	FLT	30	2		216672	0.008	0.008
94.0	96.0	Fine to coarse grained grey intensely silicified (non-K)	0.1	0				Bleached zone heavily silicified, chlorite completely disappears.	216673	0.004	0.001
96.0	98.0		0.0	0				Epidote present in bleached zone.	216674	0.001	0.001
98.0	100.0	Fine to coarse grained grey moderately propyllitic	0.1	2	CALV	40	0.1	Silicified zone ends, chlorite re-appears	216675	0.004	0.001
100.0	102.0		1.0	0					216676	0.006	0.001
102.0	104.0		3.0	1					216678	0.009	0.007
104.0	106.0		3.0	1	CV	15	3		216679	0.004	0.001
106.0	108.0		2.5	0	CALV	25	2		216680	0.007	0.001
108.0	110.0		2.0	0	QCV	20	2		216681	0.003	0.021
110.0	112.0		2.5	0	CALV	15	5		216682	0.007	0.001
112.0	114.0		1.5	2	CALV	35	1		216683	0.006	0.001
114.0	116.4		1.5	3	QCALV	15	2		216684	0.003	0.001
116.4	119.3	**STOCKWORKED BASALT DYKE**									
116.4	118.0	Fine grained dark grey weakly propyllitic	0.1	24	CALV	16	3	Basaltic dyke stockworked with calcite veinlets. Fine grained with very little or no sulphides and higher MagS readings, typically in the mid 20's.	216685	0.022	0.001
118.0	119.3		0.2	27	CALST				216686	0.023	0.001
119.3	139	**PORPHYRITIC MONZONITE INTRUSIVE**									

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From	To	Rock Type	Py-Cpy-Mt		Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
119.3	122.0	Fine to coarse grained grey moderately propyllitic	1.0		*3*	QV	20	5		216687	0.006	0.001
122.0	124.0	Fine to coarse grained grey moderately potassic - quartz-chlorite	1.0		*0*	QV	25	8		216688	0.005	0.001
124.0	126.0		0.5		*1*	QV	20	2		216689	0.002	0.001
126.0	128.0		0.5		*3*					216690	0.004	0.001
128.0	130.0		0.5		*3*					216691	0.007	0.001
130.0	132.0		2.0		*4*	CALV	10	1		216692	0.006	0.008
132.0	134.0	Fine to coarse grained grey strongly potassic - quartz-chlorite	0.2	**0.2**	*0*	CALV	25	2	Large bleb of chalcopyrite in a calcite vein. 20 cm section with more intense potassic alteration with no chlorite present in the altered zone.	216693	0.008	0.006
134.0	136.0		0.5		*6*	QV	35	6	40cm section similar to above with more intense K+ alteration. The altered zone contains a vuggy quartz veins with large quartz crystals in the vug.	216694	0.005	0.001
136.0	138.0	Fine to coarse grained grey strongly propyllitic	5.0		*0*	FLT	35	2		216695	0.011	0.001
138.0	139.0		5.0		*0*					216696	0.007	0.001
139	142.2	**STOCKWORKED BASALT DYKE**										
139.0	140.0	Fine grained dark grey weakly propyllitic	1.0		*5*	CALST			Basaltic dyke with calcite stockworking. Lower MagS than previous mafic dyke.	216697	0.024	0.001
140.0	142.2		1.5		*2*	FLT	35	5		216698	0.023	0.011
142.2	162	**PORPHYRITIC MONZONITE INTRUSIVE**										
142.2	144.0	Fine to coarse grained grey strongly propyllitic	2.5		*0*					216699	0.004	0.018
144.0	146.0		1.5		*1*	QCALV	30	2		216700	0.005	0.007
146.0	148.0	Fine to coarse grained grey moderately propyllitic	1.0		*0*	FLT	30	3		216701	0.004	0.001
148.0	150.0		2.0		*0*	QV	40	2		216702	0.004	0.026
150.0	152.0		1.0		*4*	QV	35	2		216704	0.006	0.001

Hole Number: KB-05-08

From	To	Rock Type	Py-Cpy-Mt	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
152.0	154.0	Fine to coarse grained grey moderately propyllitic	1.5	*1*	CALV	25	2		216705	0.006	0.001
154.0	156.0		1.0 **0.2**	*0*	CALV	35	2	Chalcopyrite appears in 2 locales in calcite veins.	216706	0.025	0.001
156.0	158.0		1.5	*0*	CV	30	1		216707	0.006	0.015
158.0	160.0		5.0	*0*	QV	60	2		216708	0.002	0.006
160.0	162.0		3.0	*0*					216709	0.002	0.014
162	166.2	**HETEROGENEOUS MONZONITE VEIN**									
162.0	164.0	Fine to coarse grained grey strongly propyllitic	0.5	*0*	QV	20	70	Large quartz vein.	216710	0.002	0.009
164.0	166.2		2.0	*0*	QV	40	10	Section contains a fault @ 40 degrees. Infilled with sericite and pyrite.	216711	0.003	0.019
166.2	167.1	**STOCKWORKED BASALT DYKE**									
166.2	167.1	Fine to coarse grained blue strongly propyllitic		*14*	CALST			Stockworked basaltic dyke. Calcite stockworking with no sulphides present.	216712	0.010	0.001
167.1	182	**PORPHYRITIC MONZONITE INTRUSIVE**									
167.1	168.0	Fine to coarse grained grey strongly potassic - quartz-chlorite	2.0	*2*				Fine to medium grained andesite flow with mottled sericite phenocrysts that is from the Tackla group. Alteration is moderate propyllitic and quartz/sericite/pyrite. Veining is primarily low angle Quartz/Calcite with minor chlorite. Pyrite occurs as fine grained disseminations throughout the unit and as blebs in calcite/quartz veins. Rare chalcopyrite occurs as small blebs in calcite/quartz veins.	216713	0.004	0.006
168.0	170.0		1.5	*2*	QV	30	1		216714	0.006	0.001
170.0	172.0		2.0	*4*					216715	0.006	0.001
172.0	174.0		1.0	*6*					216716	0.005	0.001
174.0	176.0	Fine to coarse grained grey strongly propyllitic	2.0	*6*	DYK	70	50	Dacitic dyke.	216717	0.005	0.039
176.0	178.0		0.5	*7*				Calcite infilling voids in the matrix.	216718	0.004	0.001

Hole Number: KB-05-08

From	To	Rock Type	Py-Cpy-Mt	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
178.0	180.0	Fine to coarse grained grey strongly propyllitic	1.5	7	EV	45	1		216719	0.004	0.001
180.0	182.0		1.0	6	EV	50	2		216720	0.008	0.067
182	190	**PORPHYRITIC BASALT DYKE**									
182.0	184.0	Fine to coarse grained dark grey moderately propyllitic		24				Porphorytic basalt dyke with augite phenocrysts. Low angle calcite veining and pyrite occurs as fine to medium grained disseminations.	216721	0.010	0.008
184.0	186.0	Fine to medium grained dark grey moderately propyllitic	2.0	10	CALST				216722	0.007	0.006
186.0	188.0		1.0	19	CALV	15	5		216723	0.007	0.001
188.0	190.0		0.5	8	CALV	5	10		216724	0.005	0.001
190	200.5	**PORPHYRITIC MONZONITE INTRUSIVE**									
190.0	192.0	Fine to coarse grained pink moderately potassic - quartz-chlorite	2.0	1	CALV	80	2	Fine to medium grained andesite flow with mottled sericite phenocrysts that is from the Tackla group. Alteration is moderate propyllitic and quartz/sericite/pyrite. Veining is primarily low angle Quartz/Calcite with minor chlorite. Pyrite occurs as fine grained disseminations throughout the unit and as blebs in calcite/quartz veins. Rare chalcopyrite occurs as small blebs in calcite/quartz veins.	216725	0.004	0.001
192.0	194.0		5.0	0				Increase in pyrite-mostly in chlorite phenocrysts.	217251	0.004	0.001
194.0	196.0		5.0	1	DYK	30	20	Stockworked basaltic dyke similar to above.	217252	0.008	0.001
196.0	198.0		5.0	0	EV	30	3	Increase in epidote.	217253	0.010	0.001
198.0	200.5		3.0	0	QV	25	2		217255	0.006	0.001
200.5	204.5	**STOCKWORKED BASALT DYKE**									
200.5	202.0	Fine grained dark grey weakly potassic - quartz-chlorite	1.0	15	CALV	70	5	Stockworked basaltic dyke similar to above.	217256	0.003	0.001
202.0	204.5		2.0	13					217257	0.002	0.001
204.5	222	**PORPHYRITIC MONZONITE INTRUSIVE**									

Hole Number: KB-05-08

From	To	Rock Type	Py-Cpy-Mt	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
204.5	206.0	Fine to coarse grained pink moderately potassic - quartz-chlorite	5.0	0	CV	30	2	Fine to medium grained andesite flow with mottled sericite phenocrysts that is from the Tackla group. Alteration is moderate propyllitic and quartz/sericite/pyrite. Veining is primarily low angle Quartz/Calcite with minor chlorite. Pyrite occurs as fine grained disseminations throughout the unit and as blebs in calcite/quartz veins. Rare chalcopyrite occurs as small blebs in calcite/quartz veins.	217258	0.005	0.001
206.0	208.0		5.0	0	QCV	45	2		217259	0.005	0.001
208.0	210.0		5.0	1					217260	0.003	0.001
210.0	212.0		0.5	1	EV	30	2	Decrease in pyrite-lesspyrite in chlorite phenocrysts.	217261	0.004	0.001
212.0	214.0		0.5	5					217262	0.003	0.001
214.0	216.0		1.5	4	DYK	30	35	Basaltic dyke.	217263	0.005	0.001
216.0	218.0		3.0	1	QV	50	1		217264	0.004	0.005
218.0	220.0		3.0	0	CALCV	30	2		217265	0.003	0.001
220.0	222.0		3.0	1	CALCV	30	3		217266	0.004	0.001
222	223.2	**STOCKWORKED BASALT DYKE**									
222.0	223.2	Fine grained dark grey moderately potassic - quartz-chlorite	0.1	2	EV	35	2	Epidote-rich dyke with epidote veins and epidote phenocrysts.	217267	0.005	0.001
223.2	240.2	**PORPHYRITIC MONZONITE INTRUSIVE**									
223.2	224.0	Fine to coarse grained pink moderately potassic - quartz-chlorite	5.0	0	QCV	40	5	Fine to medium grained andesite flow with mottled sericite phenocrysts that is from the Tackla group. Alteration is moderate propyllitic and quartz/sericite/pyrite. Veining is primarily low angle Quartz/Calcite with minor chlorite. Pyrite occurs as fine grained disseminations throughout the unit and as blebs in calcite/quartz veins. Rare chalcopyrite occurs as small blebs in calcite/quartz veins.	217268	0.005	0.001
224.0	226.0		5.0	0	CALCV	35	2		217269	0.005	0.001
226.0	228.0		5.0 **0.3**	2	QCALV	25	2	Quartz/calcite vein with blebs of chalcopyrite.	217270	0.008	0.001

Hole Number: KB-05-08

From	To	Rock Type	Py	Cpy	Mt	Ms	Veins	(°tca	-%)	Comments	Sample#	Cu %	Au ppm
228.0	230.0	Fine to coarse grained pink moderately potassic - quartz-chlorite	4.0		0.1	*4*	DYK	50	30	Basaltic dyke with a MagS of 24.7.	217271	0.011	0.001
230.0	232.0		3.0			*5*				Getting progressively coarser grains.	217272	0.004	0.001
232.0	234.0		4.0			*2*					217273	0.004	0.001
234.0	236.0		3.0			*4*					217274	0.007	0.001
236.0	238.0		3.0			*5*	QV	30	2		217275	0.003	0.001
238.0	240.2		2.0	**0.1**		*1*	CALV	30	1	Small bleb of chalcopyrite in a calcite vein.	217276	0.012	0.001
240.2	242.2	**STOCKWORKED BASALT DYKE**											
240.2	242.2	Fine to coarse grained dark grey moderately potassic - quartz-chlorite	0.1		0.5	*28*	CALV	30	10	Stockworked basaltic dyke similar to dyke at 222.0m-223.2m.	217277	0.024	0.001
242.2	251	**PORPHYRITIC MONZONITE INTRUSIVE**											
242.2	244.0	Fine to coarse grained pink strongly propyllitic	1.0			*1*	DYK	35	50	Epidote-rich dyke with low MagS-similar to epidote-rich dyke above.	217278	0.007	0.001
244.0	246.0	Fine to coarse grained pink moderately potassic - quartz-chlorite	2.0			*4*					217279	0.009	0.001
246.0	248.0		1.0			*1*	DYK	40	50	Epidote-rich dyke. Similar to above.	217281	0.015	0.001
248.0	250.0		2.0			*5*	DYK	40	40	Light colored silicic dyke. Sugary grained-no mineralization.	217282	0.007	0.001
250.0	251.0				1.0	*26*	CALV	30	8		217283	0.004	0.001
251	253.2	**STOCKWORKED BASALT DYKE**											
251.0	253.2	Fine grained dark grey moderately potassic - quartz-chlorite								Basaltic dyke. End of hole.	217284	0.023	0.001

Kemess Bear 2005 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: KB-05-09

From	To	Rock Type	Py	Cpy	Mt	Ms	Veins	°tca	%	Comments	Sample#	Cu %	Au ppm
0	6.1	**CASING**											
0.0	6.1									Casing			
6.1	68.3	**HETEROGENEOUS ANDESITE FLOW**											
6.1	9.1	Fine to medium grained green moderately phyllic	1.0		1.0	*3*				Fine to medium grained volcanic andesite flow(Tackla group). Alteration is moderate quartz/sericite/pyrite with some moderate propyllitic alteration as well. Veining is primarily low-angle quartz/calcite. The unit is faulted in several locations with faults between 40-50 degrees to core axis. Pyrite occurs as fine to medium grained disseminations throughout the groundmass and in fine grained blebs in calcite and quartz veins. Rare chalcopyrite occurs as small blebs in calcite and quartz veins. Broken up core with low recovery. Sampling block to block.	216726	0.005	0.001
9.1	12.2		1.0		0.5	*9*					216727	0.006	0.001
12.2	14.0		1.5			*0*	CALV	25	5	Sampling in 2m Intervals.	216728	0.009	0.001
14.0	16.0		2.0			*0*	CALV	40	5		216729	0.014	0.001
16.0	18.0		2.0			*0*	SV	15	7		216730	0.010	0.001
18.0	20.0		5.0			*0*	CALV	40	2		216731	0.011	0.001
20.0	22.0		6.0			*0*	CALV	50	1		216732	0.010	0.001
22.0	24.0		5.0			*1*	PYCAL	55	1		216733	0.011	0.001
24.0	26.0		2.5			*1*	CALV	40	1		216734	0.013	0.001
26.0	28.0		5.0	**0.1**		*1*	QCALV	60	2	Small bleb of chalcopyrite in a quartz/calcite vein.	216735	0.024	0.018
28.0	30.0		7.0			*0*	PYV	20	1		216736	0.015	0.009
30.0	32.0		5.0			*1*	CALEV	45	2		216737	0.013	0.001
32.0	34.0		1.5			*1*	CALEV	40	2		216738	0.014	0.015
34.0	36.0		2.0			*0*	FLT	45	4		216739	0.017	0.001

Kemess Bear 2005 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: KB-05-09

From	To	Rock Type	Py-Cpy-Mt	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
36.0	38.0	Fine to medium grained green moderately phyllic	7.0	*0*	PYCAL	45	1		216740	0.009	0.001
38.0	40.0		7.0	*0*	QV	70	1		216741	0.008	0.013
40.0	42.0		10.0	*0*	CALV	30	2		216742	0.008	0.001
42.0	44.0		8.0	*0*	CALV	35	2		216743	0.010	0.001
44.0	46.0		8.0	*0*	CALV	40	2		216744	0.007	0.006
46.0	48.0		5.0	*0*	QV	30	2		216745	0.013	0.006
48.0	50.0		10.0	*0*	FLT	50	8		216746	0.010	0.012
50.0	52.0		5.0	*1*	CALV	30	1		216747	0.009	0.032
52.0	54.0		5.0	*0*	CALV	35	3		216748	0.012	0.010
54.0	56.0		7.0	*0*	SCALV	10	15		216749	0.013	0.021
56.0	58.0		7.0	*0*	FLT	20	3		216750	0.006	0.001
58.0	60.0	Fine to medium grained green strongly silicified (non-K)	1.0	*0*	QV	40	1	Local zone of strong silicic alteration.	217302	0.001	0.001
60.0	62.0	Fine to medium grained green moderately phyllic	7.0	*0*	QV	60	2		217303	0.009	0.001
62.0	64.0		7.0	*0*					217304	0.011	0.001
64.0	66.0		8.0	*1*	QV	85	3		217305	0.010	0.001
66.0	68.3		8.0	*0*				End of hole due to collapse.	217306	0.007	0.001

Hole Number: KB-05-09B

From	To	Rock Type	Py-Cpy-Mt	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
0	12.8	**CASING**									
0.0	12.8										
12.8	48	**HETEROGENEOUS ANDESITE FLOW**									
12.8	14.0	Fine to medium grained green moderately phyllic	5.0	1				Fine to medium grained volcanic andesite flow. Alteration is moderate quartz/sericite/pyrite with some moderate propyllitic alteration as well. Veining is primarily low-angle quartz/calcite. The unit is faulted in several locations with faults between 40-50 degrees to core axis. Pyrite occurs as fine to medium grained disseminations throughout the groundmass and in fine grained blebs in calcite and quartz veins. Rare chalcopyrite occurs as small blebs in calcite and quartz veins.	217326	0.008	0.001
14.0	16.0		2.0	1	QCALV	60	2		217327	0.014	0.001
16.0	18.0		2.0	0	FLT				217328	0.012	0.001
18.0	20.0		5.0	0	CALV	45	1		217329	0.012	0.006
20.0	22.0		6.0	1	ZV	60	1		217330	0.012	0.001
22.0	24.0		4.0	1					217331	0.018	0.001
24.0	26.0		5.0	1	CALV	70	2		217332	0.015	0.001
26.0	28.0		5.0	1	QV	30	2		217333	0.018	0.001
28.0	30.0		5.0	0	QV	35	1		217334	0.013	0.006
30.0	32.0		5.0	1					217335	0.011	0.001
32.0	34.0		2.5	1	SV	30	1		217336	0.012	0.001
34.0	36.0		3.0	1	CALV	75	1		217337	0.013	0.001
36.0	38.0		4.0	0	QCALV	30	7		217338	0.014	0.001
38.0	40.0		5.0	1	QV	35	4		217339	0.014	0.001
40.0	42.0		5.0	0	QV	85	5		217340	0.010	0.001
42.0	44.0		7.0	0	SV	10	5		217341	0.008	0.001

Hole Number: KB-05-09B

From	To	Rock Type	Py-Cpy-Mt	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
44.0	46.0	Fine to medium grained green moderately phyllic	2.0	0					217342	0.009	0.001
46.0	48.0		5.0	0	FLT	35	10		217343	0.013	0.001
48	50	**HETEROGENEOUS ANDESITE FAULT ZONE**									
48.0	50.0	Fine to medium grained green moderately phyllic	5.0	0				Heavily faulted section. Faults infilled with sericite and pyrite.	217344	0.011	0.005
50	58	**HETEROGENEOUS ANDESITE FLOW**									
50.0	52.0	Fine to medium grained green moderately phyllic	5.0	0	FLT	30	20		217345	0.007	0.006
52.0	54.0		3.0	0	CALV	45	3		217346	0.013	0.007
54.0	56.0		4.0	0	QV	40	3		217347	0.008	0.012
56.0	58.0		7.0	0	QPYV	45	2	Appearance of biotite.	217348	0.020	0.006
58	60	**HETEROGENEOUS ANDESITE FAULT ZONE**									
58.0	60.0	Fine to medium grained green moderately phyllic	5.0	0	FLT	20	10		217349	0.007	0.001
60	64	**HETEROGENEOUS ANDESITE FLOW**									
60.0	62.0	Fine to medium grained green moderately phyllic	5.0	0	SV	10	5		217350	0.007	0.001
62.0	64.0		3.0	0					217352	0.007	0.001
64	68	**HETEROGENEOUS ANDESITE FAULT ZONE**									
64.0	66.0	Fine to medium grained green moderately phyllic	5.0	0					217353	0.007	0.001
66.0	68.0		5.0	0	QV	10	15	0.5m of lost core.	217354	0.013	0.008
68	88	**HETEROGENEOUS ANDESITE FLOW**									
68.0	70.0	Fine to medium grained green moderately phyllic	2.5	0	SV	30	2		217355	0.009	0.001
70.0	72.0		4.0	0	FLT	35	15		217356	0.005	0.017
72.0	74.0		4.0	0	QV	35	2		217357	0.006	0.009

Hole Number: KB-05-09B

From	To	Rock Type	Py-Cpy-Mt		Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
74.0	76.0	Fine to medium grained green moderately phyllic	4.0		0	QV	30	2	Zone of strong silicic alteration.	217358	0.001	0.006
76.0	78.0		7.0	**0.1**	0	PYV	10	1	Chalcopyrite occurs as a small bleb in a calcite/pyrite vein.	217359	0.005	0.009
78.0	80.0		8.0		0	PYV	30	2	Fault at 20 degrees taking up about 8% of the sample. 0.2m of lost core.	217360	0.009	0.026
80.0	82.0		10.0	**0.1**	0	QPYV	15	1	Chalcopyrite occurs as a small bleb in a quartz/pyrite vein	217361	0.004	0.015
82.0	84.0		8.0							217362	0.007	0.005
84.0	86.0		7.0		0	QV	30	3		217363	0.005	0.007
86.0	88.0		7.0		0	CALV	35	1		217364	0.017	0.001
88	97.5	**PORPHYRITIC MONZONITE INTRUSIVE**										
88.0	90.0	Fine to coarse grained green moderately propyllitic	7.5		0	CALV	70	1	Graded contact. Fine to coarse grained feldspar and quartz-rich monzonite with moderate propyllitic alteration. Pyrite replacement ocurring in chlorite phenoliths. Veining is typically high-angled calite and quartz.	217365	0.010	0.001
90.0	92.0		5.0		0	QV	60	2		217366	0.006	0.001
92.0	94.0		5.0		0	QV	45	2		217367	0.006	0.001
94.0	96.0		5.0		0	CQV	70	1		217368	0.040	0.006
96.0	97.5		7.0		1	QV	40	0.1		217369	0.022	0.006
97.5	120	**HETEROGENEOUS ANDESITE FLOW**										
97.5	100.0	Fine to medium grained green moderately phyllic	5.0		0	QV	30	2	Sharp contact between monzonite and Andestie.	217370	0.008	0.005
100.0	102.0		5.0	**0.1**	0	PYV	30	0.1	Small bleb of chalcopyrite in a pyrite/calcite vein.	217371	0.005	0.001
102.0	104.0		5.0		0	CALV	45	2		217372	0.010	0.001
104.0	106.0		3.0		0	CALV	45	2		217373	0.008	0.001
106.0	108.0		2.5		0	QV	30	2		217374	0.023	0.001
108.0	110.0		3.0		0	QV	30	2		217375	0.006	0.010

Hole Number: KB-05-09B

From	To	Rock Type	Py-Cpy-Mt	Ms	Veins	(°tca-	%)	Comments	Sample#	Cu %	Au ppm
110.0	112.0	Fine to medium grained green moderately phyllic	3.0	0	PYV	30	2		217376	0.011	0.001
112.0	114.0		3.0	0	QV	80	2		217378	0.005	0.001
114.0	116.0		4.0	0	CALV	30	2		217379	0.008	0.001
116.0	118.0		4.0	0	CALV	55	1		217380	0.011	0.005
118.0	120.0		5.0	0	CALV	30	3		217381	0.008	0.007
120	168	**PORPHYRITIC MONZONITE INTRUSIVE**									
120.0	122.0	Fine to coarse grained green moderately propyllitic	1.0	0	QV	45	2	Medium to coarse grained feldspar-rich monzonite. Alteration is predominantly propyllitic switching to KQS at 148m of depth. Veining is low-angle calcite veins and high angle quartz veins. Rare pyrite occurs in chlorite phenocrysts and rarely in Calcite veins.	217382	0.011	0.001
122.0	124.0		1.0	1	CALV	15	1		217383	0.010	0.001
124.0	126.0		1.0	0	QV	35	3		217384	0.005	0.001
126.0	128.0		2.0	0	QV	40	2		217385	0.007	0.001
128.0	130.0		2.0	0	QV	5	20		217386	0.004	0.001
130.0	132.0		1.0	4	QV	10	15		217387	0.001	0.007
132.0	134.0		0.5	3	CQV	45	0.1		217388	0.002	0.001
134.0	136.0		0.5	2	CALV	25	2		217389	0.003	0.001
136.0	138.0		0.0	1	QV	45	2		217390	0.004	0.009
138.0	140.0		0.0	0	QV	45	2		217391	0.005	0.001
140.0	142.0		0.0	0	CALV	10	2		217392	0.005	0.001
142.0	144.0		0.5	0	QCALV	50	2		217393	0.005	0.009
144.0	146.0		0.1	0	ECALV	50	2		217394	0.004	0.005
146.0	148.0		0.0	0	QCALV	40	5		217395	0.004	0.001
148.0	150.0	Fine to coarse grained green moderately potassic - quartz-sericite	0.0	3	CALV	30	2	Increase in k-spar.	217396	0.005	0.001

Hole Number: KB-05-09B

From	To	Rock Type	Py-Cpy-Mt	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
150.0	152.0	Fine to coarse grained green moderately potassic - quartz-sericite	0.5	0	CALV	15	2		217397	0.005	0.001
152.0	154.0		0.5	0	CALV	35	2		217398	0.004	0.001
154.0	156.0		0.0	0	QCALV	35	2		217399	0.005	0.001
156.0	158.0		0.5	1	CALV	20	2		217400	0.002	0.001
158.0	160.0		0.1	6	CALV	30	2		217401	0.004	0.001
160.0	162.0		0.0	0	CALV	30	3		217402	0.004	0.001
162.0	164.0		0.5	0	CALV	75	7		217404	0.011	0.001
164.0	166.0		0.1	0	CALV	45	2		217405	0.008	0.001
166.0	168.0		0.1	1	CALV	35	1	End of hole.	217406	0.007	0.001

Hole Number: KB-05-10

From	To	Rock Type	Py-Cpy-Mt	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
0	67.3	**OVERBURDEN**							
0.0	66.3								
66.3	67.3					Fines sampled from base of overburden.	212927	0.003	0.001
67.3	121.2	**FRAGMENTAL HETEROLITHIC CONGLOMERATE**							
67.3	74.1	Fine to coarse grained maroon brown strongly oxidized		*5*		Framework supported Conglomerate from the Hazleton formation made up of ~70% well rounded intrusive (granite) clasts and 20% andesitic/basaltic clasts, likely of Tackla origin. Minor clasts of bladed feldspar porphory and chert as well. Local infilling of calcite around clasts. Alteration is predominantly stong oxidization. Composite Sampled: last 15cm of each row in the box is sampled whole in a composite which represents the entire box.	217307	0.005	0.001
74.1	81.0			*6*			217308	0.007	0.001
81.0	86.6			*3*			217309	0.006	0.001
86.6	92.3			*4*			217310	0.005	0.001
92.3	98.3			*3*			217311	0.004	0.001
98.3	103.9			*1*			217312	0.007	0.001
103.9	109.3			*2*			217313	0.007	0.006
109.3	115.0			*1*			217314	0.008	0.001
115.0	121.2			*1*		Lithology changes to a fine to medium grained welded tuff. Matrix supported with angular clasts containing hematite laminations and calcite and epidote replacing feldspars. Veining is primarily low-angle calcite veins and local sections with sericite veins. Zeolite appears with calcite starting at a depth of around 270m. Alteration is primarily moderate to strong oxidization switching to moderate propyllitic around 213.0m in depth.	217315	0.002	0.001
121.2	155.2	**BEDDED CRYSTAL-LITHIC TUFF TUFF**							

Hole Number: KB-05-10

From	To	Rock Type	Py-Cpy-Mt	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
121.2	126.9	Fine to medium grained maroon strongly oxidized		0	CALV	50	0.1		217316	0.000	0.001
126.9	132.6	Fine to medium grained dark grey moderately oxidized		10	HV	50	0.1		217317	0.001	0.001
132.6	138.4			16	CALV	25	0.1		217318	0.002	0.001
138.4	144.2			14					217319	0.001	0.001
144.2	149.4			2					217320	0.001	0.001
149.4	155.2			1				Section with angular brecciated clasts. Some of the larger clasts have been hematite stained.	217321	0.002	0.001
155.2	166.7	**BRECCIATED CRYSTAL-LITHIC TUFF VOLCANIC BRECCIA**									
155.2	159.9	Fine to medium grained maroon strongly oxidized		1					217322	0.000	0.001
159.9	166.7			0					217323	0.001	0.001
166.7	244	**BEDDED CRYSTAL-LITHIC TUFF TUFF**									
166.7	172.1	Fine to medium grained maroon strongly oxidized		0					217324	0.000	0.001
172.1	178.4			0					217407	0.001	0.001
178.4	184.2			1	CALV	20	1		217408	0.004	0.001
184.2	190.0	Fine to medium grained green moderately oxidized		0				Vessicles infilled with calcite.	217409	0.010	0.001
190.0	195.8	Fine to medium grained maroon strongly oxidized		0					217410	0.004	0.001
195.8	201.5			0					217411	0.002	0.001
201.5	207.2			0					217412	0.005	0.001
207.2	213.0			0					217413	0.006	0.001
213.0	218.8	Fine to medium grained maroon strongly propyllitic		1				Appearance of Edpidote-infilling voids in the structure and replacing feldspars.	217414	0.011	0.001
218.8	224.5	Fine to medium grained maroon moderately propyllitic		0					217415	0.003	0.001

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From	To	Rock Type	Py-Cpy-Mt	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
224.5	230.2	Fine to medium grained maroon moderately propyllitic		0	CALEV	15	2		217416	0.009	0.001
230.2	236.2			0					217417	0.002	0.001
236.2	242.1			0	CALV	25	0.1		217418	0.001	0.001
242.1	244.0			0				Continuous sampling in 2m intervals begins.	217419	0.002	0.001
244	246	**PORPHYRITIC MONZONITE DYKE**									
244.0	246.0	Fine to coarse grained grey moderately phyllic	5.0	0				Porphorytic monzonite dyke.	217420	0.014	0.001
246	283	**BEDDED CRYSTAL-LITHIC TUFF TUFF**									
246.0	248.0	Fine to coarse grained maroon moderately propyllitic	1.0	0	CALV	40	2		217421	0.002	0.001
248.0	253.7	Fine to medium grained maroon moderately propyllitic		0				Composite Sampled: last 15cm of each row in the box is sampled whole in a composite which represents the entire box.	217422	0.001	0.001
253.7	259.6			0					217423	0.002	0.001
259.6	265.4			1					217424	0.006	0.001
265.4	271.3			1	CALST	20	2		217285	0.002	0.001
271.3	277.1			0	SCALV	30	1		217286	0.004	0.001
277.1	283.0			0	CALV	30	0.1		217287	0.004	0.001
283	353.8	**BEDDED DACITE TUFF**									
283.0	288.6	Fine to coarse grained light grey moderately propyllitic		7	CALV	10	3	Lesser degree of oxidation with higher MagS readings. Gradational contact changing to a dacitic tuff with a finer grained groundmass and less phenocrysts. One small blade of a silver-colored sulphide-arsenopyrite?	217288	0.002	0.001
288.6	294.2			18	HV	50	2	Strong fabric trending at approximately 15 degrees to the core axis. Hematite staining and hematite veins	217289	0.002	0.001
294.2	299.7			9	CALEV	15	2	Mild fabric at approximately 15 ° TO CORE AXIS .	217290	0.002	0.001
299.7	305.5			5	HV	45	2	Finer grained groundmass with an increase in epidote. Disappearance of fabric.	217291	0.001	0.001

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From	To	Rock Type	Py-Cpy-Mt	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
305.5	311.1	Fine to coarse grained light grey moderately propyllitic	0.5	*0*	SV	15	1	Local zone with very fine-grained disseminated pyrite in the matrix bordering a sericite/calcite vein-approximately 30cm in length at 309.7m.	217292	0.004	0.001
311.1	316.9	Fine to coarse grained maroon strongly propyllitic		*0*					217293	0.015	0.001
316.9	322.6			*1*	HV	30	1		217294	0.001	0.001
322.6	324.0	Fine to coarse grained maroon moderately propyllitic		*1*	CALV	25	1	Continuous sampling in 2m intervals.	217295	0.001	0.001
324.0	326.0	Fine to coarse grained grey moderately propyllitic	**0.1**	*6*	CALV	25	2	Bleb of chalcopyrite approximately 2mm thick by 7mm long occurring in a calcite vein. No other sulphides visible.	217296	0.007	0.001
326.0	328.4		**0.0**	*5*	CALV	25	2	Well formed euhedral hornblende crystals from 5mm to 2cm in diameter occur from this interval to the bottom of the hole.	217297	0.002	0.001
328.4	334.2	Fine to coarse grained maroon moderately propyllitic		*10*				Composite Sampled: last 15cm of each row in the box is sampled whole in a composite which represents the entire box.	217298	0.002	0.001
334.2	340.0			*11*				Hematite staining in several locales.	217299	0.002	0.001
340.0	346.0			*10*	HV	30	3		217300	0.002	0.001
346.0	351.8			*8*	CALV	10	1		217426	0.002	0.001
351.8	353.8			*2*	HV	50	2	End of hole.	217427	0.001	0.001

Hole Number: KB-05-11

From	To	Rock Type	Py-Cpy-Mt	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
0	27.4	**OVERBURDEN**									
0.0	26.4										
26.4	27.4							Fines sampled from base of overburden.	212928	0.006	0.001
27.4	85.1	**PORPHYRITIC FELDSPAR PORPHYRY FLOW**									
27.4	33.7	Fine to coarse grained grey weakly potassic	0.0	*19*	CALV	10	1	Feldspar porphory with trachytic feldspar phenocrysts. Feldspars are aligned and oriented at a high angle (~75 degrees) to the core axis. Veining is predominantly calcite at low angles to the core axis. Mostly unaltered with moderate to strong propyllitic beginning at 244m. Mineralization consists of rare pyrite found in calcite veins and small blebs of magnetite appearing at around 276m of depth. Composite Sampled: last 15cm of each row in the box is sampled whole in a composite which represents the entire box.	217429	0.003	0.001
33.7	39.5		0.2	*8*					217430	0.004	0.001
39.5	42.0		4.0	*1*	FLT	10	20	Fault infilled with sericite and pyrite. Sampling in 2m intervals	217431	0.004	0.001
42.0	44.0		5.0	*1*	QV	10	5	Pyrite occuring as blebs in quartz vein as well as in a sericite vein.	217432	0.003	0.001
44.0	46.0		0.0	*1*					217433	0.004	0.001
46.0	48.0			*24*	CALV	25	3		217434	0.004	0.001
48.0	50.8			*1*					217435	0.004	0.001
50.8	56.8			*5*	15	20	0.1	Composite Sampled: last 15cm of each row in the box is sampled whole in a composite which represents the entire box.	217436	0.004	0.001
56.8	62.6			*5*	CALV	70	0.1	Calcite veins with brecciated clasts of the host rock.	217437	0.004	0.001
62.6	68.4			*3*					217438	0.003	0.001

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From	To	Rock Type	Py-Cpy-Mt	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
68.4	73.9	Fine to coarse grained grey weakly potassic		*14*	CALV	10	2		217439	0.003	0.001
73.9	79.5	Fine to coarse grained grey moderately potassic		*23*					217440	0.003	0.001
79.5	85.1			*24*					217441	0.005	0.001
85.1	88	**BRECCIATED FELDSPAR PORPHYRY VOLCANIC BRECCIA**									
85.1	86.0	Fine to coarse grained grey moderately potassic	0.5	*4*	CALV	15	5	Brecciated zone with calcite veins containing pyrite. Continuous sampling in 2m intervals	217442	0.005	0.001
86.0	88.0		1.0	*1*	CALV	15	2		217443	0.004	0.001
88	102.5	**PORPHYRITIC FELDSPAR PORPHYRY FLOW**									
88.0	90.9	Fine to coarse grained grey moderately potassic		*1*					217444	0.004	0.001
90.9	96.8			*1*				Composite Sampled: last 15cm of each row in the box is sampled whole in a composite which represents the entire box.	217445	0.004	0.001
96.8	102.5	Fine to coarse grained grey weakly potassic		*5*	CALV	15	1		217446	0.004	0.001
102.5	143.4	**PORPHYRITIC FELDSPAR PORPHYRY VOLCANIC BRECCIA**									
102.5	108.4	Fine to coarse grained grey moderately potassic		*1*				Sub angular brecciated clasts of bladed feldspar porphory.	217447	0.004	0.001
108.4	114.3			*2*					217448	0.004	0.001
114.3	120.2			*0*				Carbonate infilling around brecciated clasts.	217449	0.003	0.001
120.2	125.8			*4*				Carbonate infilling similar to above.	217450	0.003	0.001
125.8	131.8			*7*					217451	0.002	0.001
131.8	137.6			*5*					217452	0.004	0.001
137.6	143.4			*8*				Beds of lapilli tuffs.	217453	0.007	0.001
143.4	178	**BEDDED LITHIC TUFF**									

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From	To	Rock Type	Py-Cpy-Mt	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
143.4	149.2	Fine to coarse grained grey moderately potassic		6	BED	65		Lapilli tuffs bedded at 65 º TO CORE AXIS. Grain supported and beds fining upwards. Matrix is predominantly sand-sized feldspars with calcite replacement in some locales.	217455	0.003	0.001
149.2	155.0			3	BED	75	10	Bed of welded tuff containing phenocrysts with a swallow-tail texture.	217456	0.003	0.001
155.0	160.8			11	BED	75			217457	0.003	0.001
160.8	166.7			7	BED	75			217458	0.003	0.001
166.7	172.6			5	BED	75			217459	0.003	0.001
172.6	174.0			3	BED	75		Continuous sampling in 2m intervals.	217460	0.002	0.001
174.0	176.0			9	CALV	75	1		217461	0.002	0.001
176.0	178.0		1.0	12	CALV	45	3	Calcite vein with large blebs of pyrite.	217462	0.002	0.001
178	189.7	**STOCKWORKED FELDSPAR PORPHYRY FLOW**									
178.0	184.2	Fine to coarse grained grey weakly potassic		33	CALV	20	5	Stockworked with low-angle calcite veins. Composite Sampled: last 15cm of each row in the box is sampled whole in a composite which represents the entire box.	217463	0.002	0.001
184.2	189.7	Fine to coarse grained grey moderately potassic		10	FLT	40	2		217464	0.002	0.001
189.7	294.2	**STOCKWORKED LITHIC TUFF**									
189.7	195.6	Fine to coarse grained grey moderately potassic		9	CALV	45	5	Lapilli tuff with a calcite matrix in several locales.	217465	0.002	0.001
195.6	198.0			9	CALV	25	2	Continuous sampling in 2m intervals.	217466	0.005	0.001
198.0	200.0		1.0	2	BED	75	10	Takla contact at 199.1	217467	0.006	0.001
200.0	202.0		0.0	0	CALV	20	2	Small blebs of a light-green colored soft mineral crysocola?	217468	0.003	0.001
202.0	204.0		0.0	0	CALV	20	2		217469	0.002	0.001
204.0	206.0		0.0	0					217470	0.002	0.001

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From	To	Rock Type	Py-Cpy-Mt	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
206.0	208.0	Fine to coarse grained grey moderately potassic	0.0	0				Several more blebs of the light-green mineral described above.	217471	0.002	0.001
208.0	210.0		0.0	0					217472	0.002	0.001
210.0	212.0		0.0	0					217473	0.014	0.001
212.0	218.0		0.0	1					217474	0.034	0.005
								Composite Sampled: last 15cm of each row in the box is sampled whole in a composite which represents the entire box.			
218.0	223.8		0.5	2	CALV	30	15	Blebs of pyrite in a calcite vein.	217475	0.017	0.005
223.8	229.5			0					217476	0.018	0.001
229.5	232.0		2.0	0				Continuous sampling in 2m intervals.	217477	0.022	0.001
232.0	234.0		1.0	0					217478	0.008	0.001
234.0	236.0		1.5	0	CALV	40	1		217479	0.015	0.001
236.0	238.0		2.0	0	FLT	55	10		217481	0.016	0.001
238.0	240.0		2.0	0				Clast of bladed feldspar porphory.	217482	0.008	0.001
240.0	242.0		1.0	0	CALPY	20	2		217483	0.008	0.001
242.0	244.0			0	CALV	30	1	Calcite/fuchsite vein.	217484	0.009	0.001
244.0	246.0	Fine to coarse grained green moderately propyllitic	0.1	0					217485	0.019	0.001
246.0	248.0		1.5	0	CALV	30	5		217486	0.018	0.001
248.0	250.0		1.0	5	CALV	25	2	Magnetite appears as blebs in the matrix.	217487	0.016	0.001
250.0	252.0		0.1	0	AHV	30	5		217488	0.012	0.001
252.0	259.1	Fine to coarse grained green strongly propyllitic		4				Increase in chlorite and epidote.	217489	0.009	0.001
								Composite Sampled: last 15cm of each row in the box is sampled whole in a composite which represents the entire box.			
259.1	264.8		0.1	4	AHCAL	45	0.1	Some pyrite around a calcite/anhydrite vein.	217490	0.010	0.001
264.8	270.7			1					217491	0.020	0.001

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From	To	Rock Type	Py-Cpy-Mt			Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
270.7	276.6	Fine to coarse grained green strongly propyllitic			0.5	2	CALV	20	5		217492	0.010	0.001
276.6	278.0		0.5			2	CALPY	55	2	Continuous sampling in 2m intervals.	217493	0.014	0.001
278.0	280.0					1	EV	25	2		217494	0.006	0.001
280.0	282.0		2.0			1	CALPY	40	2	Calcite/pyrite vein that is 50% pyrite approximately 4mm in thickness.	217495	0.016	0.006
282.0	288.4					1	CALV	25	20	Composite Sampled: last 15cm of each row in the box is sampled whole in a composite which represents the entire box.	217496	0.012	0.030
288.4	294.2		0.1			11	BED	45			217497	0.020	0.001
294.2	**328.5**	**WELL BEDDED DACITE TUFF**											
294.2	299.9	Fine to medium grained green moderately propyllitic				1	CALV	25	5	Fine to medium grained dacite with calcite stockworking with rare brecciated clasts of feldspar porphory.	217498	0.014	0.001
299.9	305.7					1	BED	35	25	Bedding of the unit has changed in attitude to low angles from the core axis possibly indicating basin infilling.	217499	0.017	0.001
305.7	311.4					21	BED	30		Bedding in the opposite direction of the calcite stockworking/veining. Grain size has drastically decreased and fewer clasts are present.	217500	0.012	0.011
311.4	317.0					21	CALV	25	10		217501	0.010	0.012
317.0	319.0		3.0			0	AHCAL	25	3	Calcite vein with large blebs of pyrite. Continuous sampling in 2m intervals.	217502	0.020	0.009
319.0	321.0		0.5			1	BED	30			217503	0.014	0.006
321.0	323.0		0.5			1	CALZV	5	2		217504	0.015	0.001
323.0	328.5		0.0			1	CALV	30	5	Composite Sampled: last 15cm of each row in the box is sampled whole in a composite which represents the entire box.	217505	0.013	0.005
328.5	**334.4**	**PORPHYRITIC BLADED FELDSPAR PORPHYRY VOLCANIC**											

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From	To	Rock Type	Py-Cpy-Mt		Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
328.5	334.4	Fine to coarse grained green strongly propyllitic	0.0		*3*	CALV	30	5	Brecciated bladed feldspar porphory with strong propyllitic alteration. Epidote replacing feldspars.	217507	0.018	0.001
334.4	350.5	**MOTTLED DACITE VOLCANIC BRECCIA**										
334.4	340.5	Fine to coarse grained green weakly potassic	0.0	5.0	*18*	CALV	30	2	Zone of intense propyllitic alteration that ends abruptly. Appearance of mottled magnetite phenocrysts.	217508	0.018	0.001
340.5	346.0		0.0	5.0	*18*	CALV	35	3	Brecciated dacite with mottled magnetite throughout. Predominantly unaltered.	217509	0.018	0.001
346.0	350.5		0.0	3.0	*18*				End of hole.	217510	0.018	0.005

Hole Number: KB-05-12

From	To	Rock Type	Py	Cpy	Mt	Ms	Veins	°tca	%	Comments	Sample#	Cu %	Au ppm
0	42.7	**OVERBURDEN**											
0.0	41.7												
41.7	42.7									Fines sampled from base of overburden.	212929	0.007	0.006
42.7	61.9	**FRAGMENTAL INTERMEDIATE TUFF**											
42.7	44.6	Fine to medium grained dark maroon brown strongly oxidized	0.0	**0.0**	5.0	*10*	BED	50	0.1	Sandy matrix intermediate volcanic lithic fragments. Clasts to 5cm variety of lithologies dominated by plag phyric volcanic (dacite?). Locally discernable bedding, ocasionally dislocated by local minor structures 10 cm displacement. Locally welded and compressed with fiammi aligned @50 degrees to core axis.			
44.6	51.7	Fine to medium grained dark maroon brown								Composite sampling. Last 15cm of each row is taken whole to represent entire box.	217511	0.002	0.001
51.7	57.2	Fine to medium grained dark maroon brown strongly oxidized	0.0	**0.0**	5.0	*10*					217512	0.002	0.001
57.2	58.0		0.0	**0.0**	5.0	*10*				Unsampled.			
58.0	60.0		0.0	**0.0**	5.0	*10*				Begin continuous split sampling	217513	0.004	0.001
60.0	61.9		0.0	**0.0**	5.0	*30*					217514	0.004	0.001
61.9	64	**PORPHYRITIC ANDESITIC AUGITE PORPHYRY FAULT ZONE**											
61.9	64.0	Fine to medium grained red green strongly oxidized	0.0	**0.0**	0.1	*0*	FLT	45	100	Augites, chlorite altered, to 5mm and 25% typically euhedral in plag-rich matrix. Less oxidised sections are grey-green.Calcite veins/stringers to 20% Quartz veining rare and rusty (oxidised pyrite).	217515	0.016	0.099
64	160	**PORPHYRITIC ANDESITIC AUGITE PORPHYRY VOLCANIC**											
64.0	66.0	Fine to medium grained red green strongly oxidized	0.0	**0.0**	0.1	*0*	CALV	10	2		217516	0.014	0.099
66.0	68.0		0.0	**0.0**	0.1	*0*					217517	0.020	0.096
68.0	70.0		0.0	**0.0**	0.1	*0*					217518	0.022	0.054
70.0	72.0		0.0	**0.0**	0.1	*0*	QV	40	2		217519	0.016	0.065
72.0	74.0		0.0	**0.0**	0.1	*0*	FLT	70	5		217520	0.019	0.038

Hole Number: KB-05-12

From	To	Rock Type	Py	Cpy	Mt	Ms	Veins	°tca	%	Comments	Sample#	Cu %	Au ppm
74.0	76.0	Fine to medium grained red green moderately oxidized	0.0	**0.0**	0.1	*0*					217521	0.018	0.141
76.0	78.0		0.0	**0.0**	0.1	*0*					217522	0.016	0.101
78.0	80.0	Fine to medium grained light red green moderately oxidized	0.0	**0.0**	0.1	*0*					217523	0.017	0.048
80.0	82.3	Fine to medium grained light red green weakly oxidized	0.0	**0.0**	0.1	*0*	CALV	10	10		217524	0.015	0.137
82.3	84.0	Fine to medium grained green grey moderately potassic - chlorite-quartz	2.0	**0.0**	1.0	*3*					217525	0.016	0.098
84.0	86.0	Fine to medium grained light green grey moderately potassic - chlorite-sericite-quartz	2.0	**0.0**	1.0	*1*	PYV	70	2	Tectonized section with significant sericite in matrix. Quartz vein fragments in soft green matrix	217526	0.015	0.119
86.0	88.0	Fine to medium grained green grey moderately potassic - chlorite-sericite-quartz	2.0	**0.0**	1.0	*7*	CALST	20	2	as above	217527	0.016	0.061
88.0	90.0		2.0	**0.0**	1.0	*2*				Local mosaic textured calcite veins/stockworks	217528	0.018	0.067
90.0	92.0		2.0	**0.0**	1.0	*3*					217529	0.012	0.065
92.0	94.0		2.0	**0.0**	1.0	*15*					217530	0.019	0.076
94.0	96.0		2.0	**0.0**	1.0	*5*	CALPY	45	5		217531	0.016	0.067
96.0	98.2		2.0	**0.0**	1.0	*10*					217532	0.018	0.043
98.2	100.5		2.0	**0.0**	1.0	*20*					217533	0.016	0.049
100.5	102.0	Fine to medium grained light green grey moderately potassic - chlorite-sericite-quartz	2.0	**0.0**	1.0	*3*	FLT	45	5	Tectonised unit as at 86m.	217534	0.016	0.073
102.0	104.0		2.0	**0.0**	1.0	*3*	FLT	75	10		217535	0.031	0.149
104.0	106.0	Fine to medium grained light green grey moderately potassic - chlorite-sericite	3.0	**0.0**	1.0	*2*					217537	0.025	0.173
106.0	108.0		2.0	**0.0**	1.0	*2*	GYPYV	25	2	Gypsum veining stringers and stockworks	217538	0.025	0.092
108.0	110.0		2.0	**0.0**	1.0	*0*					217539	0.023	0.097

Kemess Bear 2005 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: KB-05-12

From	To	Rock Type	Py	Cpy	Mt	Ms	Veins	°tca	%	Comments	Sample#	Cu %	Au ppm
110.0	112.0	Fine to medium grained light green grey moderately propyllitic	2.0	**0.0**	1.0	*0*	CALPY	80	2	Epidote veining 2%	217540	0.024	0.086
112.0	114.0		2.0	**0.0**	1.0	*0*	EV	10	2		217541	0.020	0.123
114.0	116.0		2.0	**0.0**	1.0	*1*	ECALP	10	30		217542	0.019	0.114
116.0	118.0		2.0	**0.0**	1.0	*0*	FLT	75	2		217543	0.015	0.117
118.0	120.0		2.0	**0.0**	1.0	*1*					217544	0.018	0.136
120.0	122.0		2.0	**0.0**	1.0	*1*					217545	0.014	0.141
122.0	124.0		2.0	**0.0**	1.0	*1*					217546	0.014	0.079
124.0	126.0		1.0	**0.0**	1.0	*1*				Local chlorite veining	217547	0.019	0.113
126.0	128.0		1.0	**0.0**	1.0	*1*					217548	0.013	0.185
128.0	130.0		1.0	**0.0**	1.0	*0*					217549	0.020	0.117
130.0	132.0		1.0	**0.0**	1.0	*0*					217550	0.014	0.120
132.0	134.0		1.0	**0.0**	0.0	*0*					217551	0.018	0.146
134.0	136.0		1.0	**0.0**	0.0	*0*				Epidote clots in matrix. May be preferential clast replacement. Pyrite rims	217552	0.013	0.068
136.0	138.0		1.0	**0.0**	0.0	*0*	FLT	65	3		217553	0.033	0.093
138.0	140.0		1.0	**0.0**	0.0	*0*					217554	0.019	0.073
140.0	142.0		1.0	**0.0**	0.0	*0*					217555	0.008	0.032
142.0	144.0		1.0	**0.0**	0.0	*0*					217556	0.019	0.024
144.0	146.0		1.0	**0.0**	0.0	*0*				Clots Epidote to 10%	217557	0.007	0.053
146.0	148.0		1.0	**0.0**	0.0	*0*					217558	0.018	0.025
148.0	150.0		1.0	**0.0**	0.0	*0*					217559	0.008	0.018
150.0	151.5		1.0	**0.0**	0.0	*0*					217560	0.005	0.020
151.5	152.5		1.0	**0.0**	0.0	*0*					217561	0.018	0.029

Hole Number: KB-05-12

From	To	Rock Type	Py	Cpy	Mt	Ms	Veins	°tca	%	Comments	Sample#	Cu %	Au ppm
152.5	154.0	Fine to medium grained white green moderately propyllitic	5.0	**0.0**	0.0	*0*	FLT	40	5	Quartz calcite veining in sheared volcanics to 161m. Local sulphides to 20%, mostlyblebby pyrite, trace sphalerite. Veins, replacement zones, appear at low angle to core axis.	217563	0.028	0.457
154.0	155.0		5.0	**0.0**	0.0	*0*					217564	0.012	0.098
155.0	156.0		5.0	**0.0**	0.0	*0*					217565	0.011	0.046
156.0	157.0		5.0	**0.0**	0.0	*0*					217566	0.014	0.039
157.0	158.0		5.0	**0.0**	0.0	*0*					217567	0.013	0.417
158.0	159.0		5.0	**0.0**	0.0	*0*					217568	0.003	0.153
159.0	160.0		20.0	**0.0**	0.0	*0*				Trace Sphalerite	217569	0.005	0.266
160	170.5	**SHEARED ANDESITE FLOW**											
160.0	161.0	Fine grained light grey moderately propyllitic	2.0	**0.0**	0.0	*0*	CALV	50	5	Sandy textured, faint flow banding, equigranular.	217570	0.013	0.016
161.0	163.0		1.0	**0.0**	0.0	*0*				Locally strong calcite stockworking.	217571	0.010	0.001
163.0	165.0	Fine grained light grey weakly propyllitic	1.0	**0.0**	0.0	*0*					217572	0.009	0.001
165.0	167.0		1.0	**0.0**	0.0	*0*					217573	0.010	0.033
167.0	169.0		1.0	**0.0**	0.0	*0*					217574	0.010	0.001
169.0	170.5		1.0	**0.0**	0.0	*0*					217575	0.014	0.008
170.5	176.3	**PORPHYRITIC ANDESITIC AUGITE PORPHYRY DYKE**											
170.5	172.0	Fine to coarse grained dark grey weakly propyllitic	0.0	**0.0**	0.0	*3*				Unaltered augites to 30%, euhedral to 6mm and partially etched.	217576	0.017	0.001
172.0	174.0		0.0	**0.0**	0.0	*1*					217577	0.016	0.001
174.0	176.3		0.0	**0.0**	0.0	*1*					217578	0.016	0.001
176.3	183.7	**WELL BEDDED ANDESITE FLOW**											
176.3	179.0	Fine grained dark grey moderately hornfelsed	0.0	**0.0**	0.0	*1*	BED	35	5	Chlorite/biotite replacement with preferential banding in protolith similar to 217571-75	217579	0.011	0.001
179.0	181.0		2.0	**0.0**	0.0	*1*	CALPY	20	5		217580	0.011	0.001

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From	To	Rock Type	Py	Cpy	Mt	Ms	Veins	(°tca	-%)	Comments	Sample#	Cu %	Au ppm
181.0	183.0	Fine grained dark grey moderately hornfelsed	0.0	**0.0**	0.0	*1*	FLT	70	1		217581	0.013	0.011
183.0	183.7		0.0	**0.0**	0.0	*1*					217582	0.010	0.015
183.7	190	**PORPHYRITIC DACITE DYKE**											
183.7	186.0	Fine to coarse grained light green grey intensely silicified (non-K)	1.0	**0.0**	0.0	*1*				Bleached equivalent to above dyke at 170-176m. Similar mineralogy and wet appearance. Extensive (to 20%) adularia style amorphous veining/replacement with associated pyrite. Euhedral augite phenos to 1cm.	217583	0.010	0.026
186.0	188.0		1.0	**0.0**	0.0	*1*					217584	0.015	0.020
188.0	190.0		5.0	**0.0**	0.0	*1*	FLT	80	2	Trace Sphalerite	217585	0.004	0.033
190	198	**MASSIVE ANDESITE FLOW**											
190.0	191.0	Fine grained light green grey moderately phyllic	20.0	**0.0**	0.0	*1*	FLT	10	5	Lithology based on 20% rock in unit. Balance is adularia veining and sulphides.	217586	0.004	0.035
191.0	192.0		5.0	**0.0**	0.0	*1*					217587	0.012	0.016
192.0	193.0		5.0	**0.0**	0.0	*1*					217589	0.008	0.035
193.0	194.0		5.0	**0.0**	0.0	*1*					217590	0.005	0.055
194.0	195.0		25.0	**0.0**	0.0	*1*					217591	0.005	0.094
195.0	196.0		5.0	**0.0**	0.0	*1*					217592	0.004	0.037
196.0	198.0		2.0	**0.0**	0.0	*1*					217593	0.006	0.010
198	237.6	**FRAGMENTAL ANDESITE VOLCANIC BRECCIA**											
198.0	200.0	Fine to medium grained dark green grey moderately propyllitic	0.1	**0.0**	1.0	*3*				Clots epidote, clast specific to breccia fragments. Clasts to 10cm, plag porphyry dominates. Calcite stringers and stockworks to 5mm and 5%. Matrix supported.	217594	0.008	0.001
200.0	202.0		0.1	**0.0**	1.0	*3*					217595	0.009	0.007
202.0	204.0	Fine to coarse grained dark green grey moderately propyllitic	0.1	**0.0**	5.0	*25*					217596	0.007	0.001
204.0	206.0		0.1	**0.0**	5.0	*30*					217597	0.007	0.001
206.0	208.0		0.1	**0.0**	5.0	*30*					217598	0.009	0.001

Hole Number: KB-05-12

From	To	Rock Type	Py-Cpy-Mt	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
208.0	210.0	Fine to coarse grained dark green grey moderately propyllitic	0.1 **0.0** 5.0	*22*			217599	0.008	0.005
210.0	212.0		0.1 **0.0** 5.0	*15*			217600	0.009	0.001
212.0	214.0		0.1 **0.0** 2.0	*8*		Mag readings drop with increased epidote content.	217601	0.009	0.001
214.0	216.0		0.1 **0.0** 2.0	*8*	CALV 20 20	Low angle calcite stringer stockworking. Fracturing follows stringers.	217602	0.009	0.005
216.0	218.0		0.1 **0.0** 2.0	*5*			217603	0.008	0.001
218.0	220.0		0.1 **0.0** 2.0	*5*			217604	0.009	0.006
220.0	222.0		0.1 **0.0** 2.0	*5*			217605	0.017	0.001
222.0	224.0		0.1 **0.0** 2.0	*7*		Framework supported equivalent of above Volcanic Breccia, calcite in matrix rims clasts. Calcite stringer stockwork persists, average clast size drops to 2cm.	217606	0.009	0.001
224.0	226.0		0.1 **0.0** 2.0	*5*			217607	0.007	0.001
226.0	228.0		0.1 **0.0** 2.0	*4*			217608	0.008	0.001
228.0	230.0		0.1 **0.0** 2.0	*3*			217609	0.009	0.001
230.0	232.0		0.1 **0.0** 2.0	*5*			217610	0.009	0.007
232.0	234.0		0.1 **0.0** 2.0	*3*			217611	0.008	0.001
234.0	236.0		0.1 **0.0** 2.0	*1*			217612	0.009	0.005
236.0	237.6		2.0 **0.0** 2.0	*0*	FLT 60 50		217613	0.012	0.001
237.6	242.3	**PORPHYRITIC DACITE DYKE**							
237.6	240.0	Fine to coarse grained light green pink weakly silicified (non-K)	0.0 **0.0** 2.0	*0*		Plagioclase porphyritic dyke. Phenos to 1cm euhedral in salmon pink groundmass.	217615	0.003	0.001
240.0	242.3		0.0 **0.0** 2.0	*0*			217616	0.002	0.001
242.3	342	**FRAGMENTAL ANDESITE VOLCANIC BRECCIA**							
242.3	244.0	Fine to coarse grained dark green grey moderately propyllitic	0.1 **0.0** 2.0	*0*			217617	0.014	0.005
244.0	246.0		0.1 **0.0** 2.0	*0*			217618	0.012	0.001
246.0	248.0		0.1 **0.0** 2.0	*0*		Grades to matrix support.	217619	0.009	0.001

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From	To	Rock Type	Py	Cpy	Mt	Ms	Veins	(°tca	-%)	Comments	Sample#	Cu %	Au ppm
248.0	250.0	Fine to coarse grained dark green grey moderately propyllitic	0.1	**0.0**	2.0	*0*	CALV	80	5		217620	0.012	0.001
250.0	252.0		0.1	**0.0**	2.0	*12*					217621	0.008	0.001
252.0	254.0		0.1	**0.0**	2.0	*20*					217622	0.009	0.001
254.0	256.0		0.1	**0.0**	2.0	*12*	CALST	80	10		217623	0.008	0.001
256.0	258.0		0.1	**0.0**	2.0	*15*				5% epidote	217624	0.009	0.001
258.0	260.0		0.1	**0.0**	2.0	*8*					217625	0.010	0.001
260.0	262.0		0.1	**0.0**	2.0	*8*				20% well-rounded clasts to 1cm, feldspar phyric volcanic.	217626	0.012	0.001
262.0	264.0		0.1	**0.0**	2.0	*9*					217627	0.011	0.001
264.0	266.0		0.1	**0.0**	2.0	*12*					217628	0.009	0.001
266.0	268.0		0.1	**0.0**	2.0	*10*				10% Augite porphyritic	217629	0.011	0.001
268.0	270.0		0.1	**0.0**	2.0	*10*					217630	0.010	0.001
270.0	272.0		0.1	**0.0**	2.0	*15*					217631	0.015	0.001
272.0	274.0		0.1	**0.0**	2.0	*5*				Calcite filled amygdules to 1cm, 2%.	217632	0.013	0.001
274.0	276.0		0.1	**0.0**	2.0	*5*					217633	0.011	0.001
276.0	278.0		0.1	**0.0**	2.0	*5*	CALST	65	50		217634	0.013	0.005
278.0	280.0	Fine to coarse grained dark green grey weakly propyllitic	0.1	**0.0**	5.0	*18*					217635	0.013	0.001
280.0	282.0		0.0	**0.0**	5.0	*20*				Local amygdular textures	217636	0.011	0.001
282.0	284.0		0.0	**0.0**	5.0	*26*					217637	0.010	0.001
284.0	286.0		0.0	**0.0**	5.0	*26*					217638	0.010	0.001
286.0	288.0		0.0	**0.0**	5.0	*28*	CALV	30	2	Minor augite phenos to 1cm	217639	0.009	0.001
288.0	290.0		0.0	**0.0**	5.0	*18*					217640	0.010	0.001
290.0	292.0		0.0	**0.0**	5.0	*25*					217642	0.011	0.001
292.0	294.0		0.0	**0.0**	5.0	*15*					217643	0.011	0.001
294.0	296.0		0.0	**0.0**	5.0	*20*					217644	0.010	0.010

Kemess Bear 2005 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: KB-05-12

From	To	Rock Type	Py	Cpy	Mt	Ms	Veins	°tca	%	Comments	Sample#	Cu %	Au ppm
296.0	298.0	Fine to coarse grained dark green grey weakly propyllitic	0.0	**0.0**	5.0	*20*				Locally augite phyric matrix.	217645	0.009	0.001
298.0	300.0	Fine to coarse grained dark green grey moderately propyllitic	0.1	**0.0**	5.0	*12*	FLT	40	5	Calcite veins/stockworks	217646	0.012	0.001
300.0	302.0		0.0	**0.0**	5.0	*22*	CALV	65	20		217647	0.012	0.001
302.0	304.0		0.0	**0.0**	5.0	*30*					217648	0.008	0.006
304.0	306.0		0.0	**0.0**	5.0	*20*					217649	0.010	0.001
306.0	308.0		0.0	**0.0**	5.0	*20*					217650	0.009	0.005
308.0	310.0		0.0	**0.0**	5.0	*25*					217651	0.009	0.001
310.0	312.0		0.0	**0.0**	5.0	*22*					217652	0.011	0.005
312.0	314.0		1.0	**0.0**	5.0	*20*	CALCP	70	20		217653	0.010	0.008
314.0	316.0		2.0	**0.0**	5.0	*5*	CALPY	45	10		217654	0.010	0.008
316.0	318.0	Fine to coarse grained dark green grey weakly propyllitic	2.0	**0.0**	5.0	*14*					217655	0.010	0.005
318.0	320.0		1.0	**0.0**	5.0	*14*	CALPY	65	2		217656	0.009	0.001
320.0	322.0		0.1	**0.0**	5.0	*38*					217657	0.010	0.001
322.0	324.0		0.1	**0.0**	5.0	*35*					217658	0.010	0.001
324.0	326.0		0.1	**0.0**	5.0	*25*					217659	0.010	0.001
326.0	328.0		0.1	**0.0**	5.0	*15*					217660	0.010	0.001
328.0	330.0		0.1	**0.0**	5.0	*18*					217661	0.011	0.001
330.0	332.0		0.1	**0.0**	5.0	*20*					217662	0.010	0.001
332.0	334.0		0.1	**0.0**	5.0	*20*				10% epidote patches	217663	0.019	0.001
334.0	336.0		0.1	**0.0**	5.0	*8*					217664	0.014	0.001
336.0	338.0		0.1	**0.0**	5.0	*15*					217665	0.005	0.005
338.0	340.0		0.1	**0.0**	5.0	*16*					217666	0.008	0.001
340.0	342.0		0.1	**0.0**	5.0	*21*				End of Hole	217667	0.013	0.001

Hole Number: KB-05-13

From	To	Rock Type	Py	Cpy	Mt	Ms	Veins	°tca	%	Comments	Sample#	Cu %	Au ppm
0	42.5	**BLOCKY OVERBURDEN CONGLOMERATE**											
0.0	41.5	Fine to coarse grained brown	0.0	**0.0**	0.0	*0*				rubbly overburen			
41.5	42.5		0.0	**0.0**	0.0	*0*				Fines sampled from base of overburden.	212930	0.003	0.001
42.5	87.7	**FRAGMENTAL INTERMEDIATE TUFF**											
42.5	44.0	Fine to medium grained light grey weakly oxidized	0.0	**0.0**	0.0	*0*				start of the Toodoggone Formation. Oxidized tuff. The tuff is dark red/brown and is highly oxdized. It has a porphyritic texture, phenocrysts are calciite and are <0.5mm in size. The rock is slightly stockworked with thin (1-10mm wide, some 8cm but rare) calcite veins.	217676	0.004	0.001
44.0	46.0	Fine to coarse grained dark maroon brown strongly oxidized	0.0	**0.0**	0.0	*1*					217677	0.002	0.001
46.0	48.0		0.0	**0.0**	0.0	*2*					217678	0.002	0.001
48.0	50.0		0.0	**0.0**	0.0	*1*				Oxidized Tuff	217679	0.002	0.001
50.0	52.0		0.0	**0.0**	0.0	*1*					217680	0.004	0.001
52.0	54.0	Fine to coarse grained dark maroon brown weakly oxidized	0.1	**0.0**	0.0	*1*	CALV	15	2	First appearance of calcite veins. Calcite veins contain minor pyrite. The rock in this interval is dark green and softer than the previous.	217681	0.003	0.001
54.0	56.0	Fine to coarse grained dark maroon brown strongly oxidized	0.1	**0.0**	0.0	*1*	CALV	30	7	stockwork of calcite veins with minor pyrite, still not very abundant	217682	0.004	0.001
56.0	58.0	Fine to medium grained dark maroon brown strongly oxidized	0.1	**0.0**	0.0	*2*	CALV	36	3		217683	0.003	0.001
58.0	60.0		0.0	**0.0**	0.0	*1*	CALV	20	2	Sub-angular clasts of other lithologies present throughout section	217684	0.003	0.001
60.0	62.0		0.5	**0.0**	0.0	*1*	CALV	25	5	minor amounts of pyrite associated with calcite veining. Epidote vein with cholrite halo.	217685	0.001	0.001
62.0	64.0		0.0	**0.0**	0.0	*1*	CALV		5		217686	0.005	0.001
64.0	66.0		0.5	**0.0**	0.0	*1*	CALV	50	3	Porphyritic texture appears in the Toodoggone volcanics	217687	0.004	0.001
66.0	68.0		0.5	**0.0**	0.0	*1*				trace to no calcite veins	217688	0.001	0.001
68.0	70.0		0.5	**0.0**	0.0	*1*				no calcite veins	217689	0.002	0.001

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From	To	Rock Type	Py	Cpy	Mt	Ms	Veins	°tca	%	Comments	Sample#	Cu %	Au ppm
70.0	72.0	Fine to medium grained dark maroon brown strongly oxidized	0.5	**0.0**	0.0	*2*				no calcite veins	217690	0.004	0.001
72.0	74.0		0.5	**0.0**	0.0	*10*	DYK	20	1	8cm wide dike with central seam of calcite	217691	0.001	0.001
74.0	76.0		0.5	**0.0**	0.0	*15*	CALV	4	5	near parallel (with c-axis) calcite vein. Calcite veins displaced by micro-faults	217692	0.001	0.001
76.0	77.7		0.0	**0.0**	0.0	*15*					217693	0.003	0.001
77.7	79.7	Fine to medium grained dark green grey weakly oxidized	0.0	**0.0**	0.0	*2*				Colour change from dark marron to light green/grey	217694	0.003	0.001
79.7	81.7	Fine to medium grained light pink weakly oxidized	0.0	**0.0**	0.0	*10*	CALV	20	10		217695	0.003	0.001
81.7	83.7		0.0	**0.0**	0.0	*10*					217696	0.003	0.001
83.7	85.7	Fine to medium grained light pink strongly hornfelsed	0.0	**0.0**	0.0	*20*				Baked Toodoggone rock (chill margin caused by dike). Dark green/grey rock Appears to be composed chiefly of chlorite with small phenocrysts of sericite	217697	0.004	0.001
85.7	87.7		0.0	**0.0**	0.0	*20*					217698	0.003	0.001
87.7	125	**MASSIVE FELSIC DYKE**											
87.7	89.7	Fine to medium grained light grey strongly phyllic	0.5	**0.0**	0.0	*1*	CALV	35	5	Dike cutting Toodoggone rock. The dike is fine grained to porphyritic with phenocrysts of plagioclase which have been converted to sericite. Blebs of chlorite also present in the dike. The dike is soft, composed cheifly of sericite and chlorite (phyllic alteration). 1-10cm calcite veins cut the dike, associated with these calcite veins is a hard purple and dark green mineral either anhydrite or fluorite (hard purple mineral in Kemess South is Anhydrite). Minor pyrite is visible in the felsic dike.	217699	0.001	0.001
89.7	91.7	Fine to medium grained dark grey strongly phyllic	0.5	**0.0**	0.0	*1*	CALV	30	10		217700	0.001	0.001
91.7	93.7		0.5	**0.0**	0.0	*1*	CALV	40	7		217702	0.001	0.001
93.7	95.7		0.5	**0.0**	0.0	*1*	CALV	50	7		217703	0.001	0.001
95.7	97.7		0.1	**0.0**	0.0	*0*	CALV	60	7	Hard clear dark green mineral seen within calcite vein, fluorite or anhydrite??	217704	0.001	0.001

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From	To	Rock Type	Py	Cpy	Mt	Ms	Veins	°tca	%	Comments	Sample#	Cu %	Au ppm
97.7	99.7	Fine to medium grained dark grey strongly phyllic	0.1	**0.0**	0.0	*0*					217705	0.001	0.001
99.7	101.7		0.1	**0.0**	0.0	*0*	CALV	32	10	Spotted with chlorite (1-3mm)	217706	0.001	0.001
101.7	103.7	Fine to medium grained light pink strongly phyllic	0.1	**0.0**	0.0	*0*	FLT	50	1	29cm fault	217707	0.001	0.001
103.7	105.7		0.1	**0.0**	0.0	*0*	CALV	52	5	8cm wide calcite vein--60º to core axis	217708	0.001	0.001
105.7	107.7	Fine to medium grained dark green strongly phyllic	0.1	**0.0**	0.0	*0*	CALV	40	5	chlorite increase in rock	217709	0.001	0.001
107.7	109.7	Fine to medium grained dark green grey strongly phyllic	0.1	**0.0**	0.0	*0*	CALV	30	5		217710	0.001	0.001
109.7	111.7		0.1	**0.0**	0.0	*0*	FLT	63	1	6cm wide fault	217711	0.001	0.001
111.7	113.7		0.1	**0.0**	0.0	*0*					217712	0.001	0.001
113.7	115.7		0.1	**0.0**	0.0	*0*				Blebs of chlorite in matrix	217713	0.001	0.001
115.7	117.7	Fine to medium grained light pink strongly phyllic	0.1	**0.0**	0.0	*0*					217714	0.001	0.001
117.7	119.7		0.1	**0.0**	0.0	*0*					217715	0.001	0.001
119.7	121.7		0.1	**0.0**	0.0	*0*					217716	0.001	0.001
121.7	123.7		0.1	**0.0**	0.0	*0*					217717	0.001	0.011
123.7	125.0		0.1	**0.0**	0.0	*0*					217718	0.001	0.001
125	162	**PORPHYRITIC INTERMEDIATE TUFF**											
125.0	126.0	Fine to medium grained dark grey strongly hornfelsed	0.0	**0.0**	0.0	*15*	CALV	15	1	light grey vein appears to be sericite with minor pyrite, pink halo surround it (k-spar or hematite?).	217719	0.001	0.001
126.0	128.0		0.0	**0.0**	0.0	*2*				Baked Toodoggone rock as a result of the dike. Lack of calcite veining. Large increase in magS.	217720	0.003	0.001
128.0	130.0		0.0	**0.0**	0.0	*2*					217721	0.003	0.001
130.0	132.0		0.1	**0.0**	0.0	*2*				angualr clasts (2cm wide) seen in rock, not very abundant.	217722	0.003	0.001

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From	To	Rock Type	Py-Cpy-Mt	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
132.0	134.0	Fine to medium grained dark maroon brown strongly oxidized	0.0 **0.0** 0.0	*0*				start of the Toodoggone Formation. Oxidized tuff. The tuff is dark red/brown and is highly oxdized. It has a porphyritic texture, phenocrysts are calciite and are <0.5mm in size. The rock is slightly stockworked with thin (1-10mm wide, some 8cm but rare) calcite veins. Sometimes these larger calcite veins have a epidote alteration halo indicating slight carbonate-propyllitic alteration (minor).	217723	0.001	0.008
134.0	136.0		0.0 **0.0** 0.0	*0*	CALV		5	slight stockworking of calcite veins	217724	0.003	0.001
136.0	138.0		0.0 **0.0** 0.0	*0*	ECALV	40	5	First appearance of epidote-calcite veins (approx. 4cm in width)	217725	0.003	0.001
138.0	140.0		0.0 **0.0** 0.0	*0*	ECALV	5	5	epidote-calcite veins	217726	0.002	0.005
140.0	142.0		0.0 **0.0** 0.0	*0*	ECALV	40	1		217728	0.015	0.001
142.0	144.0		0.0 **0.0** 0.0	*0*					217729	0.014	0.001
144.0	146.0		0.0 **0.0** 0.0	*0*					217730	0.002	0.001
146.0	148.0		0.0 **0.0** 0.0	*0*					217731	0.002	0.001
148.0	150.0		0.0 **0.0** 0.0	*0*					217732	0.002	0.001
150.0	152.0		0.0 **0.0** 0.0	*0*					217733	0.002	0.001
152.0	154.0		0.0 **0.0** 0.0	*4*					217734	0.003	0.001
154.0	156.0		0.0 **0.0** 0.0	*4*					217735	0.001	0.001
156.0	158.0		0.0 **0.0** 0.0	*4*					217736	0.001	0.005
158.0	160.0		0.0 **0.0** 0.0	*4*					217737	0.002	0.001
160.0	162.0		0.0 **0.0** 0.0	*8*				From 156m to 162m there is a gradual transition from Toodoggone volcanics to Takla volcanics.	217738	0.002	0.001
162	194	**PORPHYRITIC ANDESITE VOLCANIC BRECCIA**									

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From	To	Rock Type	Py	Cpy	Mt	Ms	Veins	(°tca	-%)	Comments	Sample#	Cu %	Au ppm
162.0	164.0	Fine to medium grained dark green strongly propyllitic	0.1	**0.0**	0.0	*6*				Start of the Takla volcanics. The Takla in this hole is a volcanic flow breccia. It is dark green with a porphyritic texture. The phenocrysts are a mixture of carbonate and sericite (most are carbonate). Assoc. with the carbonate veins is minor amounts of pyrite. The rock is stockworked with thin calcite stringer veins. There is splashes of epidote throughout the Takla unit, this with the carbonate seen indicates a moderate propyllitic alteration. There is also augite phenocrysts futher down in the unit (AAP).	217739	0.003	0.016
164.0	166.0		0.1	**0.0**	0.0	*1*	CALV	40	1		217740	0.001	0.001
166.0	168.0		0.1	**0.0**	0.0	*1*					217741	0.001	0.001
168.0	170.0		0.1	**0.0**	0.0	*3*					217742	0.001	0.001
170.0	172.0		0.1	**0.0**	0.0	*3*					217743	0.001	0.001
172.0	174.0		0.1	**0.0**	0.0	*3*				minor oxidation alteration,	217744	0.002	0.001
174.0	176.0		0.1	**0.0**	0.0	*5*					217745	0.004	0.001
176.0	178.0		0.1	**0.0**	0.0	*6*				thin (<0.3mm) stringer zeolite veins	217746	0.003	0.001
178.0	180.0		0.1	**0.0**	0.0	*9*				Splashes of epidote throughout section	217747	0.003	0.001
180.0	182.0		0.1	**0.0**	0.0	*8*				zeolite vein	217748	0.004	0.001
182.0	184.0		0.1	**0.0**	0.0	*8*					217749	0.004	0.001
184.0	186.0	Fine to medium grained dark green maroon strongly propyllitic	0.1	**0.0**	0.0	*4*				large calcite vein (20cm wide) 40º to core axis	217750	0.004	0.001
186.0	188.0		0.1	**0.0**	0.0	*1*					216751	0.004	0.005
188.0	190.0		0.1	**0.0**	0.0	*2*					216752	0.004	0.001
190.0	192.0		0.1	**0.0**	0.0	*3*					216754	0.004	0.001
192.0	194.0		0.1	**0.0**	0.0	*5*					216755	0.004	0.001
194	196	**PORPHYRITIC ANDESITIC AUGITE PORPHYRY VOLCANIC**											
194.0	196.0	Fine to medium grained dark green maroon strongly propyllitic	0.1	**0.0**	0.0	*6*	CALV	55	1	Augite phenocrysts appear.	216756	0.004	0.001

Hole Number: KB-05-13

From	To	Rock Type	Py-Cpy-Mt	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
196	198	**PORPHYRITIC ANDESITE VOLCANIC BRECCIA**									
196.0	198.0	Fine to medium grained dark green maroon strongly propyllitic	0.1 **0.0** 0.0	*4*				Spots of oxidation alteration	216757	0.004	0.001
198	301	**PORPHYRITIC ANDESITIC AUGITE PORPHYRY VOLCANIC**									
198.0	200.0	Fine to medium grained dark green maroon strongly propyllitic	0.1 **0.0** 0.0	*4*				minor oxidation alteration	216758	0.003	0.001
200.0	202.0		0.1 **0.0** 0.0	*8*					216759	0.004	0.001
202.0	204.0	Fine to medium grained dark green maroon moderately propyllitic	0.0 **0.0** 0.0	*1*					216760	0.004	0.001
204.0	206.0		0.0 **0.0** 0.0	*1*					216761	0.003	0.001
206.0	208.0	Fine to medium grained dark green moderately propyllitic	0.0 **0.0** 0.0	*4*				whole rock taken (207.43-207.64m)	216762	0.004	0.001
208.0	210.0		0.0 **0.0** 0.0	*18*				Increase in augite phenocrysts. Decrease in carbonate phenocrysts. The rock becomes are darker green colour and there is no longer any minor oxidation.	216763	0.004	0.001
210.0	212.0		0.0 **0.0** 0.0	*20*				Thin (5mm) chlorite veins appear	216764	0.004	0.001
212.0	214.0		0.0 **0.0** 0.0	*15*	CALV	72	1		216765	0.003	0.001
214.0	216.0		0.0 **0.0** 0.0	*10*	ZCALV	43	5	Zeolite within carbonate veins first appear	216766	0.004	0.001
216.0	218.0	Fine to medium grained dark green maroon moderately propyllitic	0.0 **0.0** 0.0	*6*	CALV	70	1	minor oxdiation returns	216767	0.003	0.001
218.0	220.0	Fine to medium grained dark green maroon strongly propyllitic	0.0 **0.0** 0.0	*2*	CALV	25	5		216768	0.004	0.001
220.0	222.0		0.0 **0.0** 0.0	*10*	CALV	55	10	splashes of epidote in matrix	216769	0.004	0.001
222.0	224.0		0.0 **0.0** 0.0	*12*	CALV	20	5	minor oxidation	216770	0.003	0.001
224.0	226.0	Fine to medium grained dark green strongly propyllitic	0.0 **0.0** 0.0	*20*	CALV	5	1	oxidation ceases	216771	0.003	0.001
226.0	228.0		0.0 **0.0** 0.0	*15*					216772	0.004	0.001
228.0	230.0	Fine to medium grained dark green maroon strongly propyllitic	0.0 **0.0** 0.0	*12*					216773	0.004	0.001
230.0	232.0		0.0 **0.0** 0.0	*5*					216774	0.003	0.001

Hole Number: KB-05-13

From	To	Rock Type	Py	Cpy	Mt	Ms	Veins	°tca	%	Comments	Sample#	Cu %	Au ppm
232.0	234.0	Fine to medium grained dark green maroon strongly propyllitic	0.0	**0.0**	0.0	*18*	ZCALV	40	5		216775	0.004	0.001
234.0	236.0	Fine to medium grained dark green strongly propyllitic	0.0	**0.0**	0.0	*16*					216776	0.004	0.001
236.0	238.0		0.0	**0.0**	0.0	*18*					216777	0.004	0.001
238.0	240.0		0.0	**0.0**	0.0	*15*	CALV	72	5	Dark green augite crystals not as abundant	216778	0.004	0.001
240.0	242.0		0.0	**0.0**	0.0	*21*					216780	0.004	0.001
242.0	244.0		0.0	**0.0**	0.0	*6*				Lack of calcite veining	216781	0.003	0.001
244.0	246.0	Fine to medium grained dark green maroon strongly propyllitic	0.0	**0.0**	0.0	*12*				Slight oxidation	216782	0.005	0.001
246.0	248.0		0.0	**0.0**	0.0	*4*				Patches of oxidation. Epidote stringers. Whole rock sample taken	216783	0.008	0.001
248.0	250.0		0.0	**0.0**	0.0	*5*				Splashes of epidote	216784	0.004	0.001
250.0	252.0		0.0	**0.0**	0.0	*5*					216785	0.003	0.001
252.0	254.0		0.0	**0.0**	0.0	*13*					216786	0.004	0.001
254.0	256.0		0.0	**0.0**	0.0	*9*					216787	0.006	0.001
256.0	258.0		0.0	**0.0**	0.0	*7*				30cm fault, 45º to core axis. 4cm wide calcite-zeolite vein	216788	0.006	0.001
258.0	260.0		0.0	**0.0**	0.0	*3*	CALV	34	1	Epidote calcite vein. Rock becomes broken and many faults start to appear.	216789	0.005	0.001
260.0	262.0		0.0	**0.0**	0.0	*6*	FLT		1		216790	0.006	0.001
262.0	264.0		0.0	**0.0**	0.0	*7*				37cm fault. Splashes of epidote and serval epidote veins.	216791	0.005	0.001
264.0	266.0		0.0	**0.0**	0.0	*7*	CALV	46	2		216792	0.003	0.001
266.0	268.0		0.0	**0.0**	0.0	*8*					216793	0.003	0.001
268.0	270.0	Fine to medium grained dark green grey strongly propyllitic	0.0	**0.0**	0.0	*0*				increase in epidote. Few calcite veins, but large amount of fine grained calcite assoc. with epidote.	216794	0.002	0.001
270.0	272.0		0.0	**0.0**	0.0	*0*				Epidote occurs in rounded patches throughout the core.	216795	0.002	0.001
272.0	274.0		0.0	**0.0**	0.0	*0*					216796	0.002	0.001
274.0	276.0		0.0	**0.0**	0.0	*0*					216797	0.004	0.001

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From	To	Rock Type	Py-Cpy-Mt	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
276.0	278.0	Fine to medium grained dark green grey strongly propyllitic	0.0 **0.0** 0.0	*1*			216798	0.003	0.001
278.0	280.0		0.0 **0.0** 0.0	*0*		22cm fault	216799	0.003	0.001
280.0	282.0		0.0 **0.0** 0.0	*1*		30cm fault	216800	0.004	0.001
282.0	284.0		0.0 **0.0** 0.0	*1*			216801	0.004	0.001
284.0	286.0		0.0 **0.0** 0.0	*0*			216802	0.004	0.001
286.0	288.0		0.0 **0.0** 0.0	*0*			216803	0.003	0.001
288.0	290.0	Fine to medium grained dark grey moderately propyllitic	0.0 **0.0** 0.0	*0*	ZCALV 29 1	Phenocrysts have been replaced by calcite-zeolite. Decrease in epidote. Rock becomes slightly darker (start of chill margin?)	216804	0.004	0.001
290.0	292.0		0.0 **0.0** 0.0	*0*	ZCALV 15 1	calcite central seam with zeolite around the edges	216806	0.004	0.001
292.0	294.0		0.0 **0.0** 0.0	*0*			216807	0.003	0.001
294.0	296.0		0.0 **0.0** 0.0	*0*			216808	0.002	0.001
296.0	298.0		0.0 **0.0** 0.0	*0*			216809	0.004	0.001
298.0	300.0		0.0 **0.0** 0.0	*0*		patches of epidote	216810	0.003	0.001
300.0	301.0		0.0 **0.0** 0.0	*0*		Chill margin and End of Takla volcaincs	216811	0.003	0.001
301	352.4	**PORPHYRITIC FELSIC DYKE**							
301.0	303.0	Fine to medium grained light pink weakly potassic - chlorite	0.1 **0.0** 0.0	*0*		Felsic dike begins. Sharp contact with Takla volcanics. Dike is light pink contain minor amounts of carbonates and trace amounts of sulphides. The dike displays phenocrysts that have been altered to a dark soft mineral (perhaps chlorite?). Thin stringer veins of calcite are the only veins seen in the dike. Slight potassic alteration altering phenocrysts to chlorite, also a slight carbonate overprint. Might have a silicic event near the base of the dike.	216812	0.001	0.001
303.0	305.0		0.1 **0.0** 0.0	*0*			216813	0.001	0.001
305.0	307.0		0.1 **0.0** 0.0	*0*			216814	0.001	0.001
307.0	309.0		0.1 **0.0** 0.0	*0*			216815	0.001	0.001

Kemess Bear 2005 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: KB-05-13

From	To	Rock Type	Py-Cpy-Mt	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
309.0	311.0	Fine to medium grained light pink weakly potassic - chlorite	0.1 **0.0** 0.0	*0*		28cm fault	216816	0.001	0.001
311.0	313.0		0.1 **0.0** 0.0	*0*			216817	0.001	0.001
313.0	315.0		0.1 **0.0** 0.0	*0*			216818	0.001	0.001
315.0	317.0		0.1 **0.0** 0.0	*0*			216819	0.000	0.001
317.0	319.0		0.1 **0.0** 0.0	*0*		whole rock sample taken (317.38 - 317.57m)	216820	0.000	0.001
319.0	321.0		0.1 **0.0** 0.0	*0*			216821	0.000	0.001
321.0	323.0		0.1 **0.0** 0.0	*0*			216822	0.000	0.001
323.0	325.0		0.1 **0.0** 0.0	*0*			216823	0.000	0.001
325.0	327.0		0.1 **0.0** 0.0	*0*			216824	0.000	0.001
327.0	329.0		0.1 **0.0** 0.0	*0*			216825	0.000	0.001
329.0	331.0		0.1 **0.0** 0.0	*0*			216826	0.000	0.001
331.0	333.0		0.1 **0.0** 0.0	*0*			216827	0.000	0.001
333.0	335.0		0.1 **0.0** 0.0	*0*		whole rock sample taken (333.45 - 333.70m) also TS & PET	216828	0.000	0.001
335.0	337.0		0.1 **0.0** 0.0	*0*			216829	0.000	0.001
337.0	339.0		0.1 **0.0** 0.0	*0*			216831	0.004	0.001
339.0	341.0		0.1 **0.0** 0.0	*0*			216832	0.001	0.001
341.0	343.0		0.1 **0.0** 0.0	*0*			216833	0.000	0.001
343.0	345.0		0.1 **0.0** 0.0	*0*			216834	0.000	0.001
345.0	347.0		0.1 **0.0** 0.0	*0*			216835	0.000	0.001
347.0	349.0		0.1 **0.0** 0.0	*0*			216836	0.000	0.001
349.0	351.0		0.1 **0.0** 0.0	*0*			216837	0.000	0.001
351.0	352.4		0.1 **0.0** 0.0	*0*		End of felsic dike. Sharp contact with Takla volcanics	216838	0.001	0.001
352.4	368.8	**PORPHYRITIC ANDESITIC AUGITE PORPHYRY VOLCANIC**							

Hole Number: KB-05-13

From	To	Rock Type	Py-Cpy-Mt	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
352.4	353.0	Fine to medium grained light brown moderately potassic - biotite	0.0 **0.0** 0.0	*1*		Chill margin (baked Takla VBX), high in biotite??? Clasts of other rocks present	216839	0.002	0.001
353.0	355.0		0.0 **0.0** 0.0	*10*		Deep tan colour, potassic dike baked zone (Takla). Large phenocrysts converted into cholrite. Back into Takla volcanics. Larger calcite veins reappear. Whole rock sample taken (353.1 - 353.4m) PET & TS also.	216840	0.001	0.001
355.0	357.0		0.0 **0.0** 0.0	*0*		End of baked Talka zone.	216841	0.002	0.001
357.0	359.0	Fine to medium grained light brown moderately propyllitic	0.0 **0.0** 0.0	*1*		Reappearance of the Takla volcanics. Augite phenocryts (AAP). Propyllitic alteration.	216842	0.004	0.001
359.0	361.0		0.0 **0.0** 0.0	*0*		Blob of epidote with calcite. Whole rock sample taken 359.1 - 359.3m)	216843	0.006	0.001
361.0	363.0		0.0 **0.0** 0.0	*0*		Small Fault (10cm wide)	216844	0.004	0.001
363.0	365.0		0.0 **0.0** 0.0	*0*			216845	0.004	0.001
365.0	367.0		0.0 **0.0** 0.0	*1*			216846	0.003	0.001
367.0	368.8		0.0 **0.0** 0.0	*1*		EOH	216847	0.002	0.001

Hole Number: KB-05-14

From	To	Rock Type	Py	Cpy	Mt	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
0	**45.7**	**OVERBURDEN**									
0.0	44.7							Overburden up until 45.7m			
44.7	45.7							Fines sampled from base of overburden.	212931	0.007	0.001
45.7	**52.4**	**FRAGMENTAL INTERMEDIATE TUFF**									
45.7	48.0	Fine to coarse grained maroon white strongly oxidized	0.0	**0.0**	0.0	*0*		Toodoggone Formation. The rock is marroon with patches of white which appear to be sericite. This unit contains angular fragments of other lithologies. Occasionally hematite veins are seen. Oxidation is the alteration present in this unit.	216851	0.000	0.001
48.0	50.0		0.0	**0.0**	0.0	*0*			216852	0.001	0.001
50.0	51.0		0.0	**0.0**	0.0	*0*			216853	0.001	0.001
51.0	52.4		0.0	**0.0**	0.0	*0*		End of Toodoggone	216854	0.001	0.001
52.4	**174**	**PORPHYRITIC ANDESITE VOLCANIC BRECCIA**									
52.4	54.0	Fine to medium grained grey strongly phyllic	5.0	**0.0**	0.0			Takla volcanic breccia. Light grey rock that contains angular blocks of other lithlogies. Through-out the rock there are sections that contain phenocrysts of plagioclase that have been altered to sericite and a matrix that has a light pink colouration (either biotite or sericite with hematite staining). These sections are alteration halos assoc. with pyrite veins. The rock has undergone an intense phyllic alteration and is composed primarily of sericite and pyrite.	216855	0.001	0.001
54.0	56.0		5.0	**0.0**	0.0	*0*		Section contains plagioclase phenos converted to sericite.	216856	0.001	0.001
56.0	58.0		5.0	**0.0**	0.0	*0*			216857	0.001	0.001
58.0	60.0		5.0	**0.0**	0.0	*0*			216858	0.001	0.001
60.0	62.0		5.0	**0.0**	0.0	*0*			216859	0.001	0.001
62.0	64.0		5.0	**0.0**	0.0	*0*			216860	0.001	0.001
64.0	66.0		5.0	**0.0**	0.0	*0*			216861	0.001	0.001
66.0	68.0		5.0	**0.0**	0.0	*0*			216862	0.001	0.001

Hole Number: KB-05-14

From	To	Rock Type	Py	Cpy	Mt	Ms	Veins	°tca	%	Comments	Sample#	Cu %	Au ppm
68.0	70.0	Fine to medium grained grey strongly phyllic	5.0	**0.0**	0.0	*0*				thin pyrite stringers cutting an area that contains a high abundance of sericite phenocrysts.	216863	0.001	0.001
70.0	72.0		5.0	**0.0**	0.0	*0*				sections that contain abundant sericite phenocrysts also contain increase concentrations of pyrite that are either in stringers or in angular clasts within the rock.	216864	0.000	0.001
72.0	74.0		5.0	**0.0**	0.0	*0*				Pyrite appears to be more concentrated in angualr clasts within the sericite matrix.	216865	0.001	0.001
74.0	76.0		5.0	**0.0**	0.0	*0*				angular green clasts (chlorite?)	216866	0.001	0.001
76.0	78.0		5.0	**0.0**	0.0	*0*	PYV	30	2		216867	0.002	0.001
78.0	80.0		5.0	**0.0**	0.0	*0*	PYV	42	2	Very wide alteration halos assoc. with pyrite vein	216868	0.001	0.001
80.0	82.0		2.0	**0.0**	0.0	*0*	PYV	22	2	All pyrite veins contain fine grained pyrite.	216869	0.000	0.001
82.0	84.0		2.0	**0.0**	0.0	*0*				blobs of fine grained pyrite	216870	0.001	0.001
84.0	86.0		2.0	**0.0**	0.0	*0*					216871	0.001	0.001
86.0	88.0		2.0	**0.0**	0.0	*0*	PYV	45	5		216872	0.001	0.001
88.0	90.0		2.0	**0.0**	0.0	*0*				blobs of fine grained pyrite sericite halos surrounding pyrite.	216873	0.001	0.001
90.0	92.0		2.0	**0.0**	0.0	*0*	PYV	28	2		216874	0.001	0.001
92.0	94.0		2.0	**0.0**	0.0	*0*					216875	0.001	0.001
94.0	96.0		2.0	**0.0**	0.0	*0*					216877	0.001	0.001
96.0	98.0		2.0	**0.0**	0.0	*0*	PYV	77	2	fine grained pyrite vein with intense sericitie alteration halo	216878	0.001	0.001
98.0	100.0		2.0	**0.0**	0.0	*0*	PYV	46	2		216879	0.001	0.001
100.0	102.0		2.0	**0.0**	0.0	*0*				small fault. Below falut is the beginning of hydrothermal breccia.	216880	0.001	0.001
102.0	104.0		4.0	**0.0**	0.0	*0*				possible hydrothermal breccia?	216881	0.002	0.001
104.0	106.0	Fine to medium grained dark grey strongly phyllic	4.0	**0.0**	0.0	*0*	AHV	45	1	hydrothermal breccia. First appearance of anhydrite veins.	216882	0.002	0.001
106.0	108.0		4.0	**0.0**	0.0	*0*				7cm fault	216883	0.001	0.001

Hole Number: KB-05-14

From	To	Rock Type	Py-Cpy-Mt			Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
108.0	110.0	Fine to medium grained dark grey strongly phyllic	2.0	**0.0**	0.0	*0*				Pyrite veins disappear along with their intense alteration halo. Still phyllic alteration. Matrix is fine grained composed of sericite.	216884	0.007	0.001
110.0	112.0		2.0	**0.0**	0.0	*0*				hydrothermal breccia	216885	0.006	0.001
112.0	114.0		5.0	**0.0**	0.0	*0*					216886	0.005	0.001
114.0	116.0		2.0	**0.0**	0.0	*0*					216887	0.003	0.001
116.0	118.0		2.0	**0.0**	0.0	*0*					216888	0.003	0.001
118.0	120.0		2.0	**0.0**	0.0	*0*					216889	0.003	0.001
120.0	122.0		2.0	**0.0**	0.0	*0*				Large angular clasts (5cm across).	216890	0.002	0.001
122.0	124.0		2.0	**0.0**	0.0	*0*					216891	0.004	0.001
124.0	126.0		2.0	**0.0**	0.0	*0*					216892	0.003	0.001
126.0	128.0		2.0	**0.0**	0.0	*0*					216893	0.003	0.001
128.0	130.0	Fine to medium grained dark maroon strongly phyllic	5.0	**0.0**	0.0	*1*	PYCAL	45	3	porphyritic texture alteration halo returns and is assoc. with a thin (<1cm) wide pyrite-calcite-anhydrite? vein. Hydrothermal breccia seen in this section. Whole Rock sample please!	216894	0.003	0.001
130.0	132.0	Fine to medium grained dark grey strongly phyllic	2.0	**0.0**	0.0	*0*					216895	0.003	0.001
132.0	134.0		2.0	**0.0**	0.0	*0*				mis-latch lost of some core (132-134)	216896	0.003	0.001
134.0	136.0		5.0	**0.0**	0.0	*0*					216897	0.001	0.001
136.0	138.0		5.0	**0.0**	0.0	*0*					216898	0.001	0.001
138.0	140.0		5.0	**0.0**	0.0	*0*					216899	0.002	0.001
140.0	142.0		3.0	**0.0**	0.0	*0*				Large semi-rounded clasts with small seicite phenos.	216900	0.002	0.001
142.0	144.0		5.0	**0.0**	0.0	*0*					216901	0.002	0.001
144.0	146.0		3.0	**0.0**	0.0	*0*					216903	0.002	0.001
146.0	148.0		5.0	**0.0**	0.0	*0*	CALV	28	1		216904	0.003	0.001
148.0	150.0		5.0	**0.0**	0.0	*0*					216905	0.001	0.001

Hole Number: KB-05-14

From	To	Rock Type	Py	Cpy	Mt	Ms	Veins	°tca	%	Comments	Sample#	Cu %	Au ppm
150.0	152.0	Fine to medium grained dark grey strongly phyllic	5.0	**0.0**	0.0	*0*				slight increase in calcite stockworking. Some calcite veins contain pyrite.	216906	0.002	0.001
152.0	154.0		5.0	**0.0**	0.0	*0*					216907	0.002	0.001
154.0	156.0	Fine to medium grained dark brown strongly potassic - biotite-chlorite	5.0	**0.0**	0.0	*2*	CALPY	15	5	rock become very dark brown to tan colour, (potassic) biotitic alteration. The tan colour is a result of alteration that seems to halo the calcite-pyrite veins. The tan colour could be sericite.	216908	0.002	0.001
156.0	158.0		5.0	**0.0**	0.0	*7*				Pyrite stringers are observed cutting the core and display a thin chloritic alteration halo. Some of the calcite-pyrite veins also show this thin chloritic alteration halo along with their wider tan (sericite?) alteration halo. Whole Rock sample please!!!	216909	0.002	0.001
158.0	160.0	Fine to medium grained dark grey strongly phyllic	5.0	**0.0**	0.0	*0*	CALPY	40	7	Back to phyllic alteration	216910	0.002	0.005
160.0	162.0		5.0	**0.0**	0.0	*0*					216911	0.003	0.001
162.0	164.0	Fine to coarse grained dark grey strongly phyllic	4.0	**0.0**	0.0	*0*				Rounded clasts incorporated into matrix	216912	0.002	0.001
164.0	166.0	Fine to medium grained dark grey strongly phyllic	4.0	**0.0**	0.0	*0*				Rubbly core, possibly fault related. Anhydrite stockworking begins.	216913	0.004	0.001
166.0	168.0		10.0	**0.0**	0.0	*0*	AHV	73	5		216914	0.002	0.001
168.0	170.0		4.0	**0.0**	0.0	*0*				Anhydrite and calcite stockworking increases.	216915	0.004	0.001
170.0	172.0		4.0	**0.0**	0.0	*0*				possible fault	216916	0.003	0.001
172.0	174.0		4.0	**0.0**	0.0	*0*	CALV	82	2	blebs of chlorite appear in matrix	216917	0.003	0.001
174	176	**PORPHYRITIC ANDESITIC AUGITE PORPHYRY VOLCANIC**											
174.0	176.0	Fine to medium grained dark green strongly potassic - chlorite	3.0	**0.0**	0.0	*8*				augite phenocrysts present.	216918	0.004	0.005
176	274	**FRAGMENTAL ANDESITE VOLCANIC BRECCIA**											
176.0	178.0	Fine to medium grained dark grey intensely phyllic	3.0	**0.0**	0.0	*1*					216919	0.004	0.001
178.0	180.0		7.0	**0.0**	0.0	*1*				anhydrite-calcite stockworking still present. Very intense phyllic alteration	216920	0.002	0.001

Hole Number: KB-05-14

From	To	Rock Type	Py	Cpy	Mt	Ms	Veins	°tca	%	Comments	Sample#	Cu %	Au ppm
180.0	182.0	Fine to medium grained dark brown strongly potassic - biotite-sericite	7.0	**0.0**	0.0	7				Core becomes dark brown again, either from an increase in pyrite content or a biotitic-sericitic alteration (difficult to tell due to very fine grained material). Minor parts of this section are phyllic alteration.	216921	0.007	0.001
182.0	184.0	Fine to medium grained dark brown strongly phyllic	7.0	**0.0**	0.0	0				Appears to contain blobs of massive sulphides (mostly likely pyrite, too fine to determine)???	216922	0.005	0.001
184.0	186.0		7.0	**0.0**	0.0	0				patches of biotitic-sericitic alteration within the phyllic alteration . Patches of sericite phenocrysts.	216923	0.005	0.001
186.0	188.0	Fine to medium grained dark green strongly phyllic	3.0	**0.0**	0.0	0				Strong phyllic alteration with phenos of sericite. Matrix composed of sericite and minor chlorite.	216924	0.004	0.001
188.0	190.0		3.0	**0.0**	0.0	0				minor anhydrite stockworking	216925	0.007	0.001
190.0	192.0		3.0	**0.0**	0.0	0					216926	0.005	0.001
192.0	194.0		3.0	**0.0**	0.0	0					216927	0.005	0.001
194.0	196.0	Fine to medium grained dark brown green strongly phyllic	5.0	**0.0**	0.0	0				Patches (few cm in length) of fine grained sulphides (pyrite? Too small to see)	216929	0.004	0.001
196.0	198.0		5.0	**0.0**	0.0	0				same as above	216930	0.005	0.001
198.0	200.0	Fine to medium grained dark grey strongly phyllic	5.0	**0.0**	0.0	0					216931	0.004	0.001
200.0	202.0		5.0	**0.0**	0.0	0				increase of quartz in the matrix.	216932	0.005	0.001
202.0	204.0		5.0	**0.0**	0.0	0				thin pyrite stringers noticed with sericitic alteration halos.	216933	0.004	0.001
204.0	206.0		5.0	**0.0**	0.0	0					216934	0.006	0.001
206.0	208.0		5.0	**0.0**	0.0	0				sericite phenos still present	216935	0.004	0.001
208.0	210.0		7.0	**0.0**	0.0	0					216936	0.005	0.001
210.0	212.0		10.0	**0.0**	0.0	0	CALV	27	7	larger calcite vein	216937	0.005	0.001
212.0	214.0		7.0	**0.0**	0.0	0	AHV	30	2		216938	0.006	0.001
214.0	216.0		7.0	**0.0**	0.0	0					216939	0.005	0.005
216.0	218.0		7.0	**0.0**	0.0	0	CALV	43	3	phenocrysts of sericite.	216940	0.005	0.001
218.0	220.0		4.0	**0.0**	0.0	0	CALAH	78	3	same as above	216941	0.005	0.001

Hole Number: KB-05-14

From	To	Rock Type	Py	Cpy	Mt	Ms	Veins	(°tca	-%)	Comments	Sample#	Cu %	Au ppm
220.0	222.0	Fine to medium grained dark grey strongly phyllic	4.0	**0.0**	0.0	*0*				stockworking of calcite and anhydrite in the same veins	216942	0.004	0.007
222.0	224.0		4.0	**0.0**	0.0	*0*					216943	0.005	0.001
224.0	226.0		4.0	**0.0**	0.0	*0*					216944	0.005	0.001
226.0	228.0		4.0	**0.0**	0.0	*0*					216945	0.005	0.001
228.0	230.0		3.0	**0.0**	0.0	*0*					216946	0.006	0.001
230.0	232.0		3.0	**0.0**	0.0	*0*					216947	0.004	0.001
232.0	234.0		4.0	**0.0**	0.0	*0*					216948	0.006	0.001
234.0	236.0		4.0	**0.0**	0.0	*0*					216949	0.003	0.001
236.0	238.0		4.0	**0.0**	0.0	*0*				increase in chlorite within the matrix	216950	0.003	0.005
238.0	240.0		3.0	**0.0**	0.0	*0*	CALV	43	2		216951	0.004	0.001
240.0	242.0		3.0	**0.0**	0.0	*0*	CALV	30	2		216952	0.002	0.001
242.0	244.0		3.0	**0.0**	0.0	*0*				possible faults	216953	0.004	0.001
244.0	246.0	Fine to medium grained dark grey moderately phyllic	3.0	**0.0**	0.0	*0*				stockworking of thin pyrite stringer veins with weak serictic alteration halos. Increase of quartz in the matrix.	216955	0.005	0.001
246.0	248.0		3.0	**0.0**	0.0	*1*				zeolite first appears with calcite in stringer veins. Minor epidote.	216956	0.005	0.001
248.0	250.0	Fine to medium grained dark brown grey moderately phyllic	7.0	**0.0**	0.0	*2*				Sulphide increase in the matrix	216957	0.005	0.006
250.0	252.0		4.0	**0.0**	0.0	*0*					216958	0.005	0.001
252.0	254.0	Fine to medium grained dark brown grey strongly phyllic	4.0	**0.0**	0.0	*0*				wormy quartz-sericite vein with an outer edge of fine grained pyrite.	216959	0.004	0.001
254.0	256.0		4.0	**0.0**	0.0	*0*	QSV	47	2		216960	0.003	0.001
256.0	258.0	Fine to medium grained dark green grey moderately phyllic	6.0	**0.0**	0.0	*2*				possible hydrothermal breccia. Flesh pink mineral seen in matrix may be zeolite. Spots of epidote, minor propyllitic overprint.	216961	0.004	0.001
258.0	260.0		5.0	**0.0**	0.0	*0*					216962	0.003	0.001
260.0	262.0		5.0	**0.0**	0.0	*0*	CALAH	42	4		216963	0.005	0.001

Hole Number: KB-05-14

From	To	Rock Type	Py	Cpy	Mt	Ms	Veins	°tca	%	Comments	Sample#	Cu %	Au ppm
262.0	264.0	Fine to medium grained dark grey strongly phyllic	5.0	**0.0**	0.0	*0*				pyrite stringers (<0.2mm) with thin (<0.4mm) sericite alteration halo.	216964	0.003	0.001
264.0	266.0	Fine to medium grained dark green grey strongly phyllic	5.0	**0.0**	0.0	*0*					216965	0.002	0.001
266.0	268.0	Fine to medium grained dark green strongly phyllic	5.0	**0.0**	0.0	*18*	PYCV	47	2	dark green flakes of chlorite. Thin pyrite-carbonate vein	216966	0.004	0.001
268.0	270.0		5.0	**0.0**	0.0	*0*					216967	0.006	0.001
270.0	272.0		5.0	**0.0**	0.0	*0*					216968	0.002	0.005
272.0	274.0		5.0	**0.0**	0.0	*0*	PYCV	45	3	minor epidote slight propyllitic overprint. Pyrite stringers with calcite.	216969	0.005	0.001
274	338.8	**PORPHYRITIC ANDESITIC AUGITE PORPHYRY VOLCANIC**											
274.0	276.0	Fine to medium grained dark green grey strongly phyllic	5.0	**0.0**	0.0	*0*	PYCV	42	2	5 calcite veins with a 42º to core axis	216970	0.001	0.001
276.0	278.0		3.0	**0.0**	0.0	*0*				slight porphyritic texture seen with phenocrysts of sericte/chlorite.	216971	0.000	0.001
278.0	280.0		3.0	**0.0**	0.0	*0*	CALV	45	2		216972	0.001	0.001
280.0	282.0		3.0	**0.0**	0.0	*0*					216973	0.000	0.001
282.0	284.0		3.0	**0.0**	0.0	*0*					216974	0.000	0.006
284.0	286.0		3.0	**0.0**	0.0	*0*	CALV	45	2		216975	0.000	0.001
286.0	288.0		3.0	**0.0**	0.0	*0*	CALV	42	2	calcite vein 32 º to core axis , calcite vein 43 º to core axis ,	216976	0.000	0.001
288.0	290.0		3.0	**0.0**	0.0	*0*					216977	0.000	0.001
290.0	292.0		3.0	**0.0**	0.0	*0*				Porphyritic texture dominates over fragmental	216978	0.000	0.001
292.0	294.0		3.0	**0.0**	0.0	*0*	CALV	38	3	Zeolite returns and is seen assoc. with the calcite veins.	216979	0.000	0.005
294.0	296.0		3.0	**0.0**	0.0	*0*					216981	0.001	0.001
296.0	298.0		3.0	**0.0**	0.0	*0*				minor epidote in calcite vein.	216982	0.001	0.001
298.0	300.0	Fine to medium grained dark grey strongly phyllic	3.0	**0.0**	0.0	*0*	CALZV	44	3	anhydrite veins haven't been seen since 272m.	216983	0.000	0.001
300.0	302.0		3.0	**0.0**	0.0	*2*	CALZV	45	3		216984	0.000	0.001

Hole Number: KB-05-14

From	To	Rock Type	Py	Cpy	Mt	Ms	Vein	°tca	%	Comments	Sample#	Cu %	Au ppm
302.0	304.0	Fine to medium grained dark green grey strongly phyllic	3.0	**0.0**	0.0	*10*	CALZV	28	6	8 calcite-zeolite veins with a 28 º to core axis.	216985	0.000	0.001
304.0	306.0		3.0	**0.0**	0.0	*10*				Augites appear in matrix	216986	0.000	0.001
306.0	308.0		3.0	**0.0**	0.0	*0*				minor epidote assoc. with calcite-zeolite veins.	216987	0.000	0.001
308.0	310.0		3.0	**0.0**	0.0	*0*					216988	0.000	0.001
310.0	312.0		3.0	**0.0**	0.0	*0*				minor epidote, slight propyllitic overprint.	216989	0.000	0.001
312.0	314.0		3.0	**0.0**	0.0	*0*					216990	0.000	0.001
314.0	316.0		3.0	**0.0**	0.0	*0*	CALZV	39	2		216991	0.001	0.001
316.0	318.0	Fine to medium grained dark grey green strongly phyllic	3.0	**0.0**	0.0	*1*					216992	0.000	0.001
318.0	320.0		3.0	**0.0**	0.0	*0*				Epidote becomes abundant throughout the matrix and in veins. Propyllitic overprint phyllic	216993	0.000	0.001
320.0	322.0		3.0	**0.0**	0.0	*4*	SCEZV	70	2	Sericite-chlortie-epidote-zeolite vein.	216994	0.000	0.001
322.0	324.0		3.0	**0.0**	0.0	*4*				Minor propyllitic overprint	216995	0.000	0.001
324.0	326.0		3.0	**0.0**	0.0	*1*				sericite vein rimmed by chlorite with an epidote alteration halo. Slight propyllitic overprint.	216996	0.000	0.001
326.0	328.0		3.0	**0.0**	0.0	*0*				minor propyllitic alteration.	216997	0.000	0.001
328.0	330.0		3.0	**0.0**	0.0	*1*					216998	0.000	0.001
330.0	332.0		3.0	**0.0**	0.0	*0*					216999	0.001	0.001
332.0	334.0		3.0	**0.0**	0.0	*0*					217000	0.001	0.001
334.0	336.0		3.0	**0.0**	0.0	*4*					217751	0.001	0.001
336.0	338.0		3.0	**0.0**	0.0	*2*				25cm section of pink-orange core (NOT INTRUSIVE), either zeolite or hematite staining?	217752	0.001	0.001
338.0	338.8		3.0	**0.0**	0.0	*2*					217753	0.001	0.001
338.8	396.2	**MOTTLED ANDESITIC AUGITE PORPHYRY FLOW**											

Kemess Bear 2005 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: KB-05-14

From	To	Rock Type	Py-Cpy-Mt	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
338.8	340.0	Fine to medium grained dark green strongly potassic - chlorite	2.0 **0.0** 0.0	*5*		Alteration contact at 338m, cholritic (potassic) alteration begins. The rock type stays the same, andesitic augite porphyry (Takla), however there are no clasts noticed in the unit, changed lith form to flow. The change in alteration is seen by an increase in MagS and by an erupt colour change from grey-green to dark green with very dark green phenos that are augites which have been replaced by chlorite. This section contains carbonate-zeolite stockworking along with anhydrite stockworking.	217754	0.004	0.001
340.0	342.0		2.0 **0.0** 0.0	*9*		minor propyllitic overprint (patchy epidote)	217755	0.008	0.001
342.0	344.0		2.0 **0.0** 0.0	*5*			217757	0.006	0.001
344.0	346.0		2.0 **0.0** 0.0	*25*			217758	0.008	0.001
346.0	348.0		2.0 **0.0** 0.0	*25*		Patches of epidote through-out the rock	217759	0.008	0.001
348.0	350.0		2.0 **0.0** 0.0	*25*		minor amounts of calcite-zeolite stocking	217760	0.008	0.001
350.0	352.0		2.0 **0.0** 0.0	*30*			217761	0.007	0.001
352.0	354.0		2.0 **0.0** 0.0	*30*		large amounts of calcite stockworking. Patches of epidote, slight propyllitic overprint.	217762	0.008	0.001
354.0	356.0		2.0 **0.0** 0.0	*31*		minor anhydrite stocking	217763	0.007	0.001
356.0	358.0		2.0 **0.0** 0.0	*45*			217764	0.006	0.001
358.0	360.0		2.0 **0.0** 0.0	*30*			217765	0.005	0.001
360.0	362.0		2.0 **0.0** 0.0	*4*	CALV 43 2	Calcite-zeolite stockworking	217766	0.005	0.001
362.0	364.0		2.0 **0.0** 0.0	*29*	CALV 45 3		217767	0.004	0.001
364.0	366.0		2.0 **0.0** 0.0	*30*		dark green chlorite veining appears in the core. Patches of epidote indicating slight propyllitic overprinting.	217768	0.005	0.001
366.0	368.0		2.0 **0.0** 0.0	*20*		chlorite veining continues	217769	0.005	0.001
368.0	370.0		2.0 **0.0** 0.0	*31*			217770	0.005	0.001
370.0	372.0		2.0 **0.0** 0.0	*15*			217771	0.005	0.001
372.0	374.0		2.0 **0.0** 0.0	*15*			217772	0.005	0.001
374.0	376.0		2.0 **0.0** 0.0	*20*		chlorite veining through out remainder of core.	217773	0.005	0.001

Hole Number: KB-05-14

From	To	Rock Type	Py	Cpy	Mt	Ms	Veins	(°tca	-%)	Comments	Sample#	Cu %	Au ppm
376.0	378.0	Fine to medium grained dark green strongly potassic - chlorite	2.0	**0.0**	0.0	*17*					217774	0.004	0.001
378.0	380.0		2.0	**0.0**	0.0	*22*	CALCV	38	2		217775	0.005	0.001
380.0	382.0		2.0	**0.0**	0.0	*17*					217776	0.004	0.001
382.0	384.0		2.0	**0.0**	0.0	*20*					217777	0.003	0.001
384.0	386.0		2.0	**0.0**	0.0	*3*				Brecciated section (35cm in length) infilled with zeolite.	217778	0.004	0.001
386.0	388.0		2.0	**0.0**	0.0	*19*					217779	0.005	0.001
388.0	390.0		2.0	**0.0**	0.0	*12*					217780	0.004	0.001
390.0	392.0		2.0	**0.0**	0.0	*15*	CALCV	23	2	minor splashes of epidote throughout section. 1m long light grey porphyritic section that hosts numberous zeolite stringer veins.	217781	0.001	0.001
392.0	394.0		2.0	**0.0**	0.0	*7*					217783	0.002	0.001
394.0	395.0		2.0	**0.0**	0.0	*6*	CV	23	2	30cm section of quartz-chlorite-epidote, siliceous overprint	217784	0.004	0.001
395.0	396.2		2.0	**0.0**	0.0	*5*				End of Hole	217785	0.002	0.001

Kemess Bear 2005 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: KB-05-15

From	To	Rock Type	Py-Cpy-Mt	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
0	15.44	**OVERBURDEN**							
0.0	14.4					Overburden, consists of tree roots, few rounded clasts and sand/silt.			
14.4	15.4					Fines sampled from base of overburden.	212932	0.017	0.001
15.44	36.58	**HETEROGENEOUS FELSIC CONGLOMERATE**							
15.4	19.7	Fine to coarse grained light green maroon weakly oxidized	0.0 **0.0** 0.0	*3*		"Non-Basal Conglomerate" Unit. This unit is green-grey-maroon in colour. It is composed of large (sometimes as large as 22cm) to small rounded clasts of numerous lithologies (e.g. pink intrusives, andesitic volcanics, highly oxidized clasts) the rock is clast supported. The matrix is made-up of soft sediments (e.g. fine grained clay, silt and a soft green mud). There is no preferred orientation of the clasts and no sulphides are seen. This unit appears to be slightly oxidized. COMPOSITE SAMPLING (10cm of rock at the end of each row in a box)	217786	0.009	0.001
19.7	23.9		0.0 **0.0** 0.0	*2*		Same as above	217787	0.006	0.001
23.9	27.9		0.0 **0.0** 0.0	*1*			217788	0.010	0.001
27.9	32.1		0.0 **0.0** 0.0	*2*		possible faults	217789	0.005	0.001
32.1	36.6		0.0 **0.0** 0.0	*1*			217790	0.005	0.192
36.58	77	**FRAGMENTAL INTERMEDIATE TUFF**							
36.6	41.3	Fine to coarse grained dark maroon strongly oxidized	0.0 **0.0** 0.0	*0*	FLT 3	"Toodoggone Rock" This rock is composed of broken angular fragments. The fragments are highly oxidized and are difficult to determine their lithology. The matrix is a soft green material (chlorite?) in some sections and a hard maroon silt/sand in other areas. The Toodoggone rock ranges from pyroclastic breccia - tuff breccia - lapilli tuff - tuff. Erosional surface at the beginning of this box.	217791	0.001	0.007
41.3	45.6		0.0 **0.0** 0.0	*0*	FLT 47 1	Large fragments- pyroclastic breccia	217792	0.001	0.001
45.6	50.1		0.0 **0.0** 0.0	*0*	FLT 45 1		217793	0.001	0.001
50.1	54.6	Fine to coarse grained dark maroon weakly oxidized	0.1 **0.0** 0.0	*0*		Epidote stringers and calcite veins in the upper section of this interval. Slight propyllitic overprint?	217794	0.002	0.001

Hole Number: KB-05-15

From	To	Rock Type	Py-Cpy-Mt	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
54.6	59.1	Fine to coarse grained dark green maroon weakly oxidized	0.1 **0.0** 0.0	*0*		The oxidation is less intense and the matrix is revealed. The matrix is composed cheifly of chlorite-sericite and minor carbonates. Minor amounts of pyrite can be seen in the chloritic matrix. Oxidized clasts are still present in the rock.	217795	0.002	0.001
59.1	63.5		0.1 **0.0** 0.0	*0*		Minor carbonate blebs are scattered through-out the rock.	217796	0.001	0.001
63.5	65.0	Fine to medium grained dark green maroon weakly oxidized	0.1 **0.0** 0.0	*0*		COMPOSITE SAMPLING ENDS…2m intervals begins.	217797	0.001	0.001
65.0	67.0		0.1 **0.0** 0.0	*0*		Fault with soft green fragments incorporated in it held by carbonate..	217798	0.007	0.001
67.0	69.0		0.1 **0.0** 0.0	*0*		Fault	217799	0.005	0.001
69.0	71.0	Fine to medium grained dark green weakly oxidized	0.1 **0.0** 0.0	*0*		Green core composed of small (0.1 - 1.5cm) angular clasts that could be andesite (Takla). The core is matrix supported and can either be soft green or maroon in colour.	217800	0.004	0.001
71.0	73.0		1.0 **0.0** 0.0	*0*			217801	0.004	0.001
73.0	75.0		2.0 **0.0** 0.0	*0*		Soft brown matrix with disseminated pyrite. Soft green angular clasts are present in the matrix (ash?). 10cm layer (90º to core axis) of soft green material (thin layer of ash perhaps?).	217802	0.005	0.005
75.0	77.0	Fine to medium grained dark green moderately propyllitic	0.0 **0.0** 0.0	*9*	CALEV 45 4	Green core with a slight porphyritic texture (perhaps a chill margin from the next sample "dike"). Disseminated pyrite through-out core. There is also a number of calcite veins rimmed by epidote that have a preffered orientation of 45º to core axis.	217803	0.005	0.001
77	86	**PORPHYRITIC SYENITE DYKE**							
77.0	79.0	Fine to medium grained dark brown moderately propyllitic	0.0 **0.0** 0.0	*8*		"Syenite Dyke" The dyke is dark brown in colour and displays a porphyritic texture that consists of chlorite and sericite phenocrysts rimmed by epidote. Only two calcite veins are seen cutting the dyke. The dyke appears to have undergone slight propyllitic alteration. No minerlization can be seen.	217804	0.004	0.001

Hole Number: KB-05-15

From	To	Rock Type	Py-Cpy-Mt	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
79.0	81.0	Fine to medium grained dark brown moderately propyllitic	0.0 **0.0** 0.0	*9*			217805	0.003	0.001
81.0	83.0		0.0 **0.0** 0.0	*7*		End of dyke start of chill margin.	217806	0.004	0.001
83.0	85.0		0.0 **0.0** 0.0	*14*			217807	0.004	0.001
85.0	86.0		1.0 **0.0** 0.0	*9*		End of the chill margin.	217808	0.005	0.001
86	155.4	**FRAGMENTAL INTERMEDIATE TUFF**							
86.0	87.0	Fine to medium grained dark brown strongly oxidized	2.0 **0.0** 0.0	*1*		Same layer as 217802	217809	0.002	0.001
87.0	89.0	Fine to medium grained dark green moderately propyllitic	1.0 **0.0** 0.0	*0*		Two small faults that contains soft green sediments with 5% pyrite.	217810	0.005	0.001
89.0	93.7		1.0 **0.0** 0.0	*0*		There are structures (fractures or joints) within the unit, that contain fragments of the host rock and has a carbonate matrix.	217812	0.004	0.048
93.7	98.2	Fine to medium grained dark green maroon moderately propyllitic	0.1 **0.0** 0.0	*1*		A range from tuff breccia to lapilli tuff.	217813	0.004	0.001
98.2	102.7		0.1 **0.0** 0.0	*2*	CALV 60 2	See sample 217812 (same)	217814	0.009	0.001
102.7	107.3		0.1 **0.0** 0.0	*5*			217815	0.004	0.001
107.3	111.8		0.1 **0.0** 0.0	*3*		Lapilli tuff with dark green clasts (chlorite??) that are orientatedts (43º to core axis), welded lapilli tuff. Fracture infilling? of very soft marron/green material (???) that caused an epidote alteration halo.	217816	0.008	0.001
111.8	116.3	Fine to medium grained dark green moderately propyllitic	0.1 **0.0** 0.0	*2*		Same as above. More of this frature infilling that contains mainly epidote and carbonate and conatins angular clasts of the surrounding rock.	217817	0.001	0.001
116.3	121.0		0.1 **0.0** 0.0	*3*			217818	0.002	0.001
121.0	125.4		0.1 **0.0** 0.0	*3*		The unknown fracture infilling may be preferred pockets or clasts within the rock that are highly susceptible to the moderate propyllitic alteration????	217819	0.001	0.014

Hole Number: KB-05-15

From	To	Rock Type	Py-Cpy-Mt	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
125.4	129.9	Fine to medium grained dark green moderately propyllitic	0.1 **0.0** 0.0	*3*		Rounded patches of epidote, evidence that's supports the preferred replacement of clasts by propyllitic alteration. The base of this section has larger clasts indicating a pyroclastic breccia. Minor fault?	217820	0.002	0.001
129.9	134.3		0.1 **0.0** 0.0	*1*		Some fragments have chloritic rinds replacing them.	217821	0.002	0.001
134.3	138.9		0.1 **0.0** 0.0	*0*		Lapilli Tuff	217822	0.003	0.001
138.9	143.3		0.1 **0.0** 0.0	*0*		Epidote replacement of certain clasts	217823	0.003	0.016
143.3	147.7		0.1 **0.0** 0.0	*2*		Clasts altered to chlorite-calcite with epidote alteration.	217824	0.006	0.001
147.7	152.1		0.1 **0.0** 0.0	*1*		Two fractures/veins? that have been filled/replaced? By chlorite-calcite with an epidote alteration selvage.	217825	0.002	0.001
152.1	153.4		0.1 **0.0** 0.0	*0*			217826	0.005	0.001
153.4	155.4		0.1 **0.0** 0.0	*0*		Lapilli Tuff	217827	0.002	0.014
155.4	156.6	**MASSIVE FELSIC TUFF**							
155.4	156.6	Fine to medium grained white strongly argillic	0.1 **0.0** 0.0	*0*		Bleach white tuff layer. This layer has vugs which are filled with gypsum. TS sample taken	217828	0.001	0.001
156.6	228.7	**FRAGMENTAL INTERMEDIATE TUFF**							
156.6	161.0	Fine to medium grained dark green moderately propyllitic	0.1 **0.0** 0.0	*1*		Start of composite sampling. Minor calcite stockworking. 15cm section of light brown sediments.	217829	0.002	0.001
161.0	165.6		0.1 **0.0** 0.0	*0*		Through-out this section there are areas where the angular clasts are orientated 45 ° to core axis and 50 ° to core axis. This preferred orientation could be a result of welding.	217830	0.001	0.001
165.6	170.3	Fine to medium grained dark green strongly propyllitic	0.1 **0.0** 0.0	*1*		1m long section (166.6 - 167.6m) the matrix becomes deep brown/purple colour and contains pyrite stringers. The rest of the section is lapilli tuff. Fracture controlled or clast replacement by epidote is present.	217831	0.007	0.001
170.3	174.5		0.1 **0.0** 0.0	*0*		Fracture controlled or clast replacement by epidote. Slight porphyritic texture	217832	0.004	0.001

Hole Number: KB-05-15

From	To	Rock Type	Py	Cpy	Mt	Ms	Veins	°tca	%	Comments	Sample#	Cu %	Au ppm
174.5	179.0	Fine to medium grained dark green strongly propyllitic	0.1	**0.0**	0.0	*0*				Fracture controlled or clast replacement by epidote. Carbonate assoc. with epidote.	217833	0.006	0.001
179.0	183.5		0.1	**0.0**	0.0	*1*				Both fracture controlled and selective clast replacement by epidote appears to exist.	217834	0.009	0.001
183.5	187.9		0.1	**0.0**	0.0	*1*				same as above	217835	0.004	0.001
187.9	192.2		0.1	**0.0**	0.0	*2*					217837	0.004	0.001
192.2	196.2	Fine to medium grained dark brown strongly propyllitic	0.1	**0.0**	0.0	*2*				Structure present (fault?). Matrix becomes a dark purple and only a slight bit of epidote remains.	217838	0.008	0.001
196.2	200.9	Fine to medium grained dark green brown strongly propyllitic	0.1	**0.0**	0.0	*3*				Tuff (fine grained sediments). Large (70cm) sections of epidote that contain angular clasts of the host rock.	217839	0.005	0.001
200.9	205.0		0.1	**0.0**	0.0	*2*				Interlayering of Tuff and Lapilli tuff (grain size increases). Same as above (epidote). Large amounts of carbonate assoc. with the epidote. WHOLE ROCK	217840	0.001	0.001
205.0	209.6		0.1	**0.0**	0.0	*1*	FLT	60	1	Clasts are rimmed by carbonate and are replaced by epidote inside. Interlayering same as above.	217841	0.008	0.001
209.6	213.8		0.1	**0.0**	0.0	*0*				Same as above. Large epidote-carbonate fractures/veins. Orientated and streched clasts (Ignibrite) texture indicating welding. TS-SAMPLE	217842	0.004	0.001
213.8	218.0		0.1	**0.0**	0.0	*0*				Minor carbonate stockworking.	217843	0.012	0.001
218.0	222.3		0.1	**0.0**	0.0	*1*	CALV	45	2	Calcite veins	217844	0.002	0.001
222.3	226.7		0.1	**0.0**	0.0	*0*				6cm layer of brown fine grained sediment (ash?), surrounded by epidote-calcite alteration.	217845	0.008	0.001
226.7	228.7		0.1	**0.0**	0.0	*0*				End of composite sampling start of continous sampling. Zeolite-calcite stockworking	217846	0.003	0.001
228.7	235.3	**STOCKWORKED MAFIC TUFF**											
228.7	229.7	Fine grained dark green weakly propyllitic	0.1	**0.0**	0.0	*1*				Dark green/black rock highly stockworked with a mixture of calcite/zeolite and gypsum veins. The rock is fine grained and has small crystal phenocrysts, perhaps a crystal tuff? Weak propyllitic alteration. (High MagSus reading??? Basaltic flow???)	217847	0.006	0.001

Hole Number: KB-05-15

From	To	Rock Type	Py	Cpy	Mt	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
229.7	231.3	Fine grained dark green weakly propyllitic	0.1	**0.0**	0.0	*15*				same as above	217848	0.004	0.001
231.3	233.3		0.1	**0.0**	0.0	*20*				same as above, WHOLE ROCK.	217849	0.004	0.001
233.3	235.3		0.1	**0.0**	0.0	*10*				End of Crystal tuff/suspect flow??	217850	0.005	0.001
235.3	267.5	**FRAGMENTAL INTERMEDIATE TUFF**											
235.3	239.0	Fine to medium grained dark green brown strongly propyllitic	0.1	**0.0**	0.0	*1*				Beginning of composite sampling. Back in to VBX that ranges from lapilli tuff to tuff. Odd blebs of carbonate surrounded by epidote.	217851	0.009	0.001
239.0	243.4		0.1	**0.0**	0.0	*1*	CV	74	1	2cm wide chlorite vein with epidote-carbonate alteration selvage.	217852	0.006	0.001
243.4	247.7		0.1	**0.0**	0.0	*5*					217853	0.006	0.001
247.7	252.2		0.1	**0.0**	0.0	*5*					217854	0.001	0.001
252.2	256.6	Fine to medium grained dark maroon brown strongly propyllitic	0.1	**0.0**	0.0	*4*				Matrix becomes dark maroon. Minor calcite stockworking.	217855	0.002	0.001
256.6	261.1	Fine to medium grained dark green strongly propyllitic	0.1	**0.0**	0.0	*2*				Thick brown vein/fracture? Related to a fine tuff layer	217856	0.003	0.001
261.1	265.3		0.1	**0.0**	0.0	*1*					217857	0.005	0.001
265.3	267.5	Fine to coarse grained dark brown green strongly propyllitic	0.1	**0.0**	0.0	*3*					217858	0.004	0.001
267.5	282.6	**HETEROGENEOUS INTERMEDIATE AGLOMERATE**											
267.5	269.5	Fine to coarse grained dark brown green weakly propyllitic	0.1	**0.0**	0.0	*2*				Aglomerate- this unit consists of angular - semi-angular - semi-rounded intrusive clasts. Some of the matrix displays a welded texture (swallow tail), however, from the spherical nature of most of the clasts it appears that they have been reworked to some degree (epiclastic). There are also well bedded layers of fine ash within this unit.	217859	0.002	0.001
269.5	274.1		0.1	**0.0**	0.0	*0*					217860	0.001	0.001
274.1	278.5		0.1	**0.0**	0.0	*3*				Minor calcite stockworking.	217861	0.003	0.001
278.5	282.6		0.1	**0.0**	0.0	*4*				Same as 217859	217863	0.001	0.001

Hole Number: KB-05-15

From	To	Rock Type	Py	Cpy	Mt	Ms	Veins	°tca	%	Comments	Sample#	Cu %	Au ppm
282.6	301	**POORLY BEDDED INTERMEDIATE SEDIMENTS**											
282.6	286.9	Fine to coarse grained light pink green weakly carbonate altered	0.1	**0.0**	0.0	*0*	BED	38	70	A mixture of lithic material and sediments that include; rounded to ragged clasts of green porphyritic rock, light pink fragments (possible intrusive rock), and a matrix of fine greyish ash? In some areas the rock is medium grained and appears to have a interlocking texture (appears intrusive). Other areas the rock is poorly to well bedded with fine sediment (even cross-bedding is seen). The rock is relativley unaltered, only few calcite veins are seen cutting the matrix and bedding.	217864	0.001	0.001
286.9	291.4		0.1	**0.0**	0.0	*0*	BED	43	45	This section ranges from no bedding to well-bedded with cross-bedding. TS-sample of cross-bedding.	217865	0.001	0.001
291.4	295.7		0.1	**0.0**	0.0	*0*	BED	45	25	Very fine material, well-bedded, ash?? Minor calcite stockworking.	217866	0.001	0.001
295.7	299.8		0.1	**0.0**	0.0	*0*	BED	70	5	Little to no bedding. Large (up to 8cm across) clasts of other lithologies.	217867	0.001	0.001
299.8	301.0		0.1	**0.0**	0.0	*0*				@ 301m end of light pink green sometimes bedded unit.	217868	0.000	0.001
301	359.7	**FRAGMENTAL INTERMEDIATE TUFF**											
301.0	304.2	Fine to coarse grained dark green weakly carbonate altered	0.1	**0.0**	0.0	*1*				Reappearance of the Toodoggone volcanics. The difference betweem this unit and the previous Toodoggone volcanics is that this particular unit contains bedded sections and displays more welded textures (ignibrite texture). Propyllitic alteration is still the dominate alteration.	217869	0.002	0.001
304.2	308.5	Fine to coarse grained dark green strongly propyllitic	0.1	**0.0**	0.0	*1*	BED	63	5	Bedded sections have an epidote alteration selvage surrounding them.	217870	0.004	0.001
308.5	312.8		0.1	**0.0**	0.0	*1*	BED	64	10	Patches of epidote through-out the section (fractured controlled or clast replacement?)	217871	0.002	0.001
312.8	317.2		0.1	**0.0**	0.0	*0*				Clast shards with rims of epidote. Other clasts are have a preferred orientation, indicating welding (lapilli tuff). Large amount of propyllitic alteration	217872	0.004	0.001

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Hole Number: KB-05-15

From	To	Rock Type	Py	Cpy	Mt	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
317.2	321.6	Fine to coarse grained dark green strongly propyllitic	0.1	**0.0**	0.0	*1*				Large sections (1m) of 90% epidote replacement. Orientated clasts indicating welding.	217873	0.003	0.001
321.6	325.9		0.1	**0.0**	0.0	*1*				Orientated shards. Some shards have a central core of chlorite rimmed by a hard white material (not quartz). 50cm long section of fine material (ash?), shows poor bedding near it's base.	217874	0.004	0.001
325.9	330.3		0.1	**0.0**	0.0	*5*				Same as above. Weak welding texture seen.	217875	0.003	0.001
330.3	334.5		0.1	**0.0**	0.0	*2*	BED	64	2	Patches of epidote. Few beds of soft sediment seen.	217876	0.007	0.001
334.5	338.7		0.1	**0.0**	0.0	*3*				Patches of epidote (appears fractured controlled). Welded and non-welded layers and poor bedding of finer material.	217877	0.004	0.001
338.7	343.1	Fine to medium grained dark green strongly propyllitic	0.1	**0.0**	0.0	*5*				Small clasts appear.	217878	0.001	0.001
343.1	347.5		0.1	**0.0**	0.0	*2*				Welded and non-welded texture can be seen through-out this section.	217879	0.001	0.001
347.5	352.0		0.1	**0.0**	0.0	*0*				Welded texture with clasts of K-spar mixed in.	217880	0.001	0.001
352.0	356.3	Fine to coarse grained dark green strongly propyllitic	0.1	**0.0**	0.0	*0*				Welding at the beginning of the section. First appearance of rounded intrusive clasts (unaltered clasts)	217881	0.004	0.001
356.3	359.7	Fine to medium grained dark green strongly propyllitic	0.1	**0.0**	0.0	*0*				No welding textures, small clasts (phenos?) slight propyllitic alteration. END OF HOLE	217882	0.005	0.001

Hole Number: KB-05-16

From	To	Rock Type	Py-Cpy-Mt	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
0	21.3	**OVERBURDEN**							
0.0	20.3								
20.3	21.3					Fines sampled from base of overburden.	212933	0.012	0.001
21.3	52.1	**FRAGMENTAL HETEROLITHIC CONGLOMERATE**							
21.3	23.4	Fine to coarse grained maroon strongly oxidized		*1*		Framework supported Conglomerate from the Hazleton formation made up of ~70% well rounded intrusive (granite) clasts and 20% andesitic/basaltic clasts, likely of Tackla origin. Matrix consists of calcite and well-rounded pebble sized lithic fragments up to 3mm in diameter. Local infilling of calcite around clasts. Alteration is predominantly stong oxidization.	217884	0.004	0.001
23.4	27.3			*6*			217885	0.006	0.001
27.3	31.4			*1*			217886	0.010	0.001
31.4	35.3			*2*			217887	0.009	0.001
35.3	40.0			*3*			217888	0.008	0.001
40.0	43.8			*2*			217889	0.007	0.001
43.8	48.5			*2*			217890	0.008	0.005
48.5	52.1			*1*		Sharp contact with Tackla andesite augite porphory.	217891	0.011	0.001
52.1	188	**MOTTLED ANDESITIC AUGITE PORPHYRY FLOW**							

Hole Number: KB-05-16

From	To	Rock Type	Py	Cpy-Mt	Ms	Veins	(°tca	-%)	Comments	Sample#	Cu %	Au ppm
52.1	54.0	Fine to medium grained grey weakly phyllic	2.0	2.0	*41*	CALV	5	2	Fine to medium grained andesite augite porphory. Sub-angular to sub-rounded augite phenocrysts making up 15-20% of the unit with some local brecciated sections having between 0-5% augite phenocryts. Rare quartz eyes in local sections up to 4mm in diameter. Veining is primarily low-angle calcite in the upper section of the hole with gypsum veins beginning at 214m depth. There is a local section with a strong fabric from 236m to 270m that trends at 40-55 degrees to the core axis. Alteration is primarily weak phyllic in the upper sections increasing to moderate at about 104m depth and then changing to moderate KQS at 264m. There is a local zone with strong silicic alteration from 246m to 264m. Mineralization consists of disseminated pyrite throughout the unit with some small pyrite veins and minor pyrite occurring in some calcite veins. Magnetite occurs in the augite phenocrysts as well as rare magnetite veins.	217892	0.006	0.001
54.0	56.0		1.0	2.0	*40*	CV	10	1	Small chlorite vein about 1mm thick.	217893	0.004	0.001
56.0	58.0		4.0	2.0	*31*	CALV	25	2		217894	0.004	0.001
58.0	60.0		4.0	2.0	*25*	CALV	60	1	Calcite vein laminated with hematite staining.	217895	0.004	0.001
60.0	62.0		4.0	2.0	*32*				Quartz eye ~5mm in diameter.	217896	0.004	0.001
62.0	64.0		5.0	2.0	*33*	CALV	20	2		217897	0.005	0.001
64.0	66.0		4.0	2.0	*33*					217898	0.004	0.001
66.0	68.0		4.0	2.0	*35*					217899	0.004	0.001
68.0	70.0		4.0	2.0	*23*	CALV	25	2		217900	0.005	0.001
70.0	72.0		4.0	2.0	*36*	CALV	10	3	Several low-angle calcite veinlets.	217901	0.004	0.001
72.0	74.0		4.0	2.0	*35*					217902	0.004	0.001
74.0	76.0		4.0	2.0	*36*	CALV	35	5	Calcite vein with an intense argillic alteration halo.	217903	0.004	0.001
76.0	78.0		3.0	2.0	*37*					217904	0.004	0.001
78.0	80.0		4.0	2.0	*40*					217905	0.004	0.001

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From	To	Rock Type	Py-Cpy-Mt	Ms		Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
80.0	82.0	Fine to medium grained grey weakly phyllic	4.0	2.0	*37*	CALV	70	2		217906	0.004	0.001
82.0	84.0		4.0	4.0	*39*	SMV	40	2	Sericite/Magnetite vein ~1.5cm thick..	217907	0.004	0.001
84.0	86.0		4.0	2.0						217908	0.003	0.001
86.0	88.0		3.0	2.0	*37*					217910	0.004	0.001
88.0	90.0		1.0	2.0	*40*					217911	0.004	0.001
90.0	92.0		3.0	2.0	*40*	CALV	85	1		217912	0.004	0.001
92.0	94.0		4.0	2.0	*38*	CALV	80	1		217913	0.004	0.001
94.0	96.0		4.0	2.0	*35*					217914	0.005	0.001
96.0	98.0		4.0	2.0	*37*	CALV	85	3		217915	0.003	0.001
98.0	100.0		2.0	2.0	*34*					217916	0.004	0.001
100.0	102.0		4.0	2.0	*35*					217917	0.004	0.001
102.0	104.0		4.0	2.0	*27*	CALV	45	2		217918	0.004	0.001
104.0	106.0	Fine to medium grained grey strongly silicified (non-K)	4.0	4.0	*34*	MV	45	2	Strong silicic alteration. Magnetite vein approximately 8mm in diameter.	217919	0.002	0.001
106.0	108.0	Fine to medium grained grey moderately silicified (non-K)	4.0	2.0	*32*					217920	0.002	0.001
108.0	110.0	Fine to medium grained grey moderately phyllic	3.0	2.0	*38*					217921	0.003	0.001
110.0	112.0		4.0	2.0	*32*	CALV	45	2		217922	0.003	0.001
112.0	114.0		2.0	2.0	*40*					217923	0.003	0.001
114.0	116.0	Fine to medium grained grey weakly phyllic	3.0	2.0	*36*	CALV	35	1		217924	0.005	0.001
116.0	118.0		3.0	2.0	*32*	CALV	45	2		217925	0.003	0.001
118.0	120.0		2.0	2.0	*30*	CALV	0	5	Calcite vein parallel to core axis.	217926	0.003	0.001
120.0	122.0		3.0	2.0	*32*	CALV	45	3	Several calcite veinlets at 45 º TO CORE AXIS. Small speck of a silver-colored sulphide.	217927	0.003	0.001
122.0	124.0		3.0	2.0	*30*	CALV	25	1		217928	0.003	0.001

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Northgate Minerals Corp.

Hole Number: KB-05-16

From	To	Rock Type	Py	Cpy-Mt	Ms	Veins	(°tca	-%)	Comments	Sample#	Cu %	Au ppm
124.0	126.0	Fine to medium grained grey weakly phyllic	3.0	2.0	*29*					217929	0.003	0.001
126.0	128.0		3.0	2.0	*33*					217930	0.003	0.001
128.0	130.0		2.0	5.0	*36*	MV	75	2	Two high-angle magnetite veins.	217931	0.003	0.001
130.0	132.0		5.0	2.0	*34*	CALV	85	3	2cm thick Calcite vein with coarse grains of pyrite.	217932	0.004	0.001
132.0	134.0		5.0	2.0	*34*	ZV	5	1		217933	0.003	0.001
134.0	136.0		1.0	1.0	*26*	CALV	20	3		217934	0.004	0.001
136.0	138.0		4.0	2.0	*32*	CALV	45	1		217936	0.003	0.001
138.0	140.0		3.0	2.0	*39*					217937	0.003	0.001
140.0	142.0		3.0	2.0	*30*					217938	0.003	0.001
142.0	144.0		3.0	2.0	*26*	CALV	20	2		217939	0.003	0.001
144.0	146.0	Fine to medium grained grey moderately phyllic	2.0	0.5	*10*	CALV	20	2	Alteration increases from weak to moderate potassic. Increase of porphorytic feldspar crystals	217940	0.003	0.001
146.0	148.0		2.0	0.1	*8*	CALV	15	3		217941	0.003	0.001
148.0	150.0		2.0	0.1	*13*	CALV	15	3		217942	0.003	0.001
150.0	152.0		2.0	0.5	*20*				Calcite and epidote infillling a void in the structure. Local section with ambygloidal texture.	217943	0.003	0.001
152.0	154.0	Fine to medium grained grey weakly phyllic	4.0	1.0	*27*	CALV	20	2		217944	0.003	0.001
154.0	156.0	Fine to medium grained grey moderately phyllic	2.0	1.0	*33*	CALV	85	1	Calcite vein with a strong potassic alteration halo.	217945	0.003	0.001
156.0	158.0	Fine to medium grained grey weakly phyllic	3.0	1.0	*32*					217946	0.003	0.001
158.0	160.0		4.0	2.0	*31*					217947	0.003	0.001
160.0	162.0		5.0	2.0	*40*					217948	0.003	0.001
162.0	164.0		5.0	2.0	*41*					217949	0.003	0.001
164.0	166.0		3.0	2.0	*34*					217950	0.003	0.001
166.0	168.0		3.0	2.0	*32*	CALV	25	1		217951	0.002	0.001

Hole Number: KB-05-16

From	To	Rock Type	Py-Cpy-Mt		Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
168.0	170.0	Fine to medium grained grey weakly phyllic	3.0	2.0	*36*					217952	0.004	0.001
170.0	172.0		3.0	2.0	*35*					217953	0.003	0.001
172.0	174.0		4.0	2.0	*34*	CALV	40	2		217954	0.003	0.001
174.0	176.0		3.0	2.0	*32*					217955	0.003	0.001
176.0	178.0		3.0	2.0	*32*					217956	0.003	0.001
178.0	180.0		3.0	2.0	*38*	CALV	10	1		217957	0.004	0.001
180.0	182.0		3.0	1.5	*34*					217958	0.003	0.001
182.0	184.0		3.0	1.5	*31*	CALV	10	1		217959	0.003	0.001
184.0	186.0	Fine to medium grained grey moderately phyllic	4.0	2.0	*31*					217960	0.003	0.001
186.0	188.0		4.0	2.0	*34*	CALV	15	1		217962	0.003	0.001
188	198	**MOTTLED ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA**										
188.0	190.0	Fine to medium grained grey moderately phyllic	2.0	2.0	*30*				Large clasts of crowded feldspar porphory in a fine grained matrix. Depositional environment switches from a flow to a volcanic breccia.	217963	0.002	0.001
190.0	192.0		1.0	2.0	*36*					217964	0.002	0.001
192.0	194.0		3.0	1.0	*25*					217965	0.003	0.001
194.0	196.0		4.0	3.0	*44*					217966	0.004	0.001
196.0	198.0		7.0	1.5	*30*	PYV	65	1		217967	0.003	0.001
198	305	**MOTTLED ANDESITIC AUGITE PORPHYRY FLOW**										
198.0	200.0	Fine to medium grained grey moderately phyllic	7.0	2.0	*33*	CALV	25	2		217968	0.004	0.001
200.0	202.0	Fine to medium grained grey strongly potassic - quartz-chlorite	10.0	0.0	*1*	CALV	20	2	Change in alteration to strong KQC. Increase in pyrite.	217969	0.003	0.001
202.0	204.0		7.0	0.0	*1*	CALV	30	2		217970	0.003	0.001
204.0	206.0		10.0	0.0	*1*	PYV	35	1		217971	0.003	0.001

Hole Number: KB-05-16

From	To	Rock Type	Py-Cpy-Mt		Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
206.0	208.0	Fine to medium grained grey moderately phyllic	7.0	0.5	*26*					217972	0.005	0.001
208.0	210.0		5.0	0.5	*15*	CALV	20	1	Quartz eye ~3mm in diameter.	217973	0.004	0.001
210.0	212.0		4.0	2.0	*34*	CALPY	45	3		217974	0.005	0.001
212.0	214.0		3.0	1.0	*17*	CALV	25	2		217975	0.004	0.001
214.0	216.0		4.0	0.0	*7*	GYV	20	2	Appearance of gypsum.	217976	0.004	0.001
216.0	218.0		3.0		*8*	GYV	20	2		217977	0.003	0.001
218.0	220.0	Fine to medium grained grey intensely phyllic	5.0		*12*				Zone with intense phyllic alteration.	217978	0.004	0.001
220.0	222.0	Fine to medium grained grey moderately phyllic	7.0	0.0	*11*	GYV	20	2		217979	0.003	0.001
222.0	224.0		7.0		*10*	GYV	20	3		217980	0.003	0.001
224.0	226.0		7.0	1.0	*27*	GYV	20	1		217981	0.003	0.001
226.0	228.0		7.0	1.0	*18*					217982	0.003	0.001
228.0	230.0		5.0	1.5	*29*					217983	0.003	0.001
230.0	232.0		4.0	2.0	*31*	GYV	20	3		217984	0.003	0.001
232.0	234.0		5.0	2.0	*31*					217985	0.003	0.001
234.0	236.0		7.0	2.0	*26*					217986	0.003	0.001
236.0	238.0		5.0	2.0	*29*				Strong fabric trending at about 55 degrees TCA.	217988	0.003	0.001
238.0	240.0		4.0	2.0	*27*	GYV	85	1		217989	0.003	0.001
240.0	242.0		2.0	2.0	*27*					217990	0.003	0.001
242.0	244.0		2.0	2.5	*45*					217991	0.003	0.001
244.0	246.0		4.0	2.0	*31*	GYV	15	2		217992	0.003	0.001
246.0	248.0	Fine to medium grained grey strongly silicified (non-K)	5.0	2.0	*31*	QV	30	1		217993	0.003	0.001
248.0	250.0		4.0	2.0	*31*					217994	0.003	0.001
250.0	252.0		5.0	2.0	*33*				Strong fabric at 40 degrees to core axis.	217995	0.004	0.001

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Northgate Minerals Corp.

Hole Number: KB-05-16

From	To	Rock Type	Py	Cpy-Mt	Ms	Veins	(°tca	-%)	Comments	Sample#	Cu %	Au ppm
252.0	254.0	Fine to medium grained grey moderately silicified (non-K)	5.0	2.0	*29*	GYV	20	2		217996	0.004	0.001
254.0	256.0		5.0	2.0	*30*	GYV	45	1		217997	0.003	0.001
256.0	258.0		4.0	2.0	*39*					217998	0.003	0.001
258.0	260.0		4.0	2.0	*38*	GYV	30	0.1		217999	0.002	0.001
260.0	262.0		4.0	2.0	*41*	GYV	30	0.1		218000	0.002	0.001
262.0	264.0		3.0	2.0	*37*					218001	0.002	0.001
264.0	266.0	Fine to medium grained grey moderately potassic - quartz-sericite	5.0	2.0	*46*	GYV	80	1		218002	0.003	0.001
266.0	268.0		4.0	2.0	*35*					218003	0.003	0.001
268.0	270.0		4.0	2.0	*26*				Several quartz eyes up to 5mm in diameter at ~268.4m and at 269.5m.	218004	0.002	0.001
270.0	272.0		3.0	1.0	*26*					218005	0.003	0.001
272.0	274.0		3.0	2.0	*34*	QV	20	2		218006	0.002	0.001
274.0	276.0	Fine to medium grained grey strongly potassic - quartz-sericite	4.0	2.0	*25*	QV	50	1		218007	0.003	0.001
276.0	278.0	Fine to medium grained grey moderately potassic - quartz-sericite	4.0	1.0	*25*					218008	0.003	0.001
278.0	280.0		5.0	1.0	*28*	GYV	85	0.1		218009	0.003	0.001
280.0	282.0		5.0	1.0	*16*	GYV	25	2		218010	0.003	0.001
282.0	284.0		5.0	1.0	*31*	CALV	75	1		218011	0.003	0.001
284.0	286.0		7.0	1.0	*29*	CALV	75	2		218012	0.003	0.001
286.0	288.0		7.0	1.0	*33*	PYV	30	1		218013	0.004	0.001
288.0	290.0		6.0	2.0	*36*	PYV	20	1		218015	0.004	0.001
290.0	292.0		6.0	2.0	*37*	PYV	15	2		218016	0.005	0.001
292.0	294.0		5.0	2.0	*39*	PYV	70	0.1		218017	0.003	0.001
294.0	296.0		5.0	2.0	*30*	CALV	45	1		218018	0.004	0.001
296.0	298.0		3.0	2.0	*38*					218019	0.003	0.001

Hole Number: KB-05-16

From	To	Rock Type	Py	Cpy-Mt	Ms	Veins	(°tca	-%)	Comments	Sample#	Cu %	Au ppm
298.0	300.0	Fine to medium grained grey moderately potassic - quartz-sericite	2.0	2.0	*43*	GYV	45	1		218020	0.004	0.001
300.0	302.0		2.0	2.0	*45*					218021	0.004	0.001
302.0	304.0		4.0	2.0	*40*	QV	25	1		218022	0.004	0.001
304.0	305.0		5.0	2.0	*33*	PYGYV	30	0.1		218023	0.003	0.001
305	314	**HETEROGENEOUS ANDESITIC AUGITE PORPHYRY VOLCANIC**										
305.0	306.7	Fine to medium grained grey moderately potassic - quartz-sericite	6.0	2.0	*41*	PYV	55	2	Heterogeneous andesitic vocanic breccia. Brecciated section contains small pyrite veinlets about 1mm thick as well as a local section of quartz phenocrysts that are up to 4mm in diameter. Less augite phenocrysts ranging from 0 to 5%.	218024	0.003	0.001
306.7	308.0		3.0	2.0	*44*	GYV	15	2		218025	0.003	0.001
308.0	310.0		5.0	2.0	*41*	PYV	15	1		218026	0.004	0.001
310.0	312.0		6.0	2.0	*39*	PYV	20	1		218027	0.005	0.001
312.0	314.0		5.0	2.0	*46*					218028	0.005	0.001
314	316	**MOTTLED ANDESITIC AUGITE PORPHYRY FLOW**										
314.0	316.0	Fine to medium grained grey strongly potassic - quartz-sericite	7.0	1.0	*32*	PYCAL	50	1	Appearance of epidote.	218029	0.004	0.001
316	318	**MOTTLED ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA**										
316.0	318.0	Fine to medium grained grey strongly potassic - quartz-sericite	3.0	2.0	*46*	CALV	30	2		218030	0.001	0.001
318	320	**MOTTLED ANDESITIC AUGITE PORPHYRY FLOW**										
318.0	320.0	Fine to medium grained grey moderately potassic - quartz-sericite	2.0	2.0	*37*	CALV	30	2		218031	0.003	0.001
320	330	**MOTTLED ANDESITIC AUGITE PORPHYRY VOLCANIC BRECCIA**										
320.0	322.0	Fine to medium grained grey moderately potassic - quartz-sericite	4.0	2.0	*40*					218032	0.002	0.001
322.0	324.0		4.0	2.0	*49*					218033	0.002	0.001
324.0	326.0		4.0	2.0	*43*					218034	0.002	0.001

Hole Number: KB-05-16

From	To	Rock Type	Py	Cpy-Mt	Ms	Veins	(°tca	-%)	Comments	Sample#	Cu %	Au ppm
326.0	328.0	Fine to medium grained grey moderately potassic - quartz-sericite	5.0	2.0	*44*					218035	0.002	0.001
328.0	330.0		7.0	2.0	*25*	CALPY	40	3		218036	0.003	0.001
330	340	**MOTTLED ANDESITIC AUGITE PORPHYRY FLOW**										
330.0	332.0	Fine to medium grained grey moderately potassic - quartz-sericite	4.0	2.0	*34*	CALV	20	5		218037	0.003	0.001
332.0	334.0		3.0	2.0	*28*	CALV	40	2		218038	0.003	0.001
334.0	336.0		4.0	2.0	*33*					218039	0.003	0.001
336.0	338.0		2.0	2.0	*34*	CALV	20	2		218041	0.004	0.001
338.0	340.0	Fine to medium grained grey strongly potassic - quartz-sericite	2.0	2.0	*34*				Contact with Tackla basalt.	218042	0.003	0.001
340	366.2	**MASSIVE BASALT FLOW**										
340.0	342.0	Fine to medium grained dark grey moderately potassic - quartz-sericite	5.0	2.0	*25*	CALV	35	1	Fine to medium grained massive basalt flow. Contains minor augite phenocrysts up to 5mm in diameter. Alteration consists of strong local sections of mag-destructive KQS alteration as well as relatively unaltered sections. Veining is primarily calcite and pyrite. Mineralization is primarily pyrite in veins and stringers typically at low angles to the core axis as well as minor amounts of disseminated pyrite in the matrix. Abundant primary magnetite.	218043	0.003	0.001
342.0	344.0		6.0	2.5	*44*	PYV	30	2		218044	0.002	0.001
344.0	346.0		6.0	2.0	*40*	PYV	35	2		218045	0.003	0.001
346.0	348.0		7.0	2.0	*42*	CALV	35	1	Several pyrite stringers at about 20 degrees to the core axis.	218046	0.003	0.001
348.0	350.0		4.0	2.0	*39*	CALZV	45	1		218047	0.003	0.001
350.0	352.0	Fine to medium grained dark grey weakly potassic - quartz-sericite	5.0	4.0	*51*	PYV	20	2		218048	0.003	0.001
352.0	354.0		2.0	4.0	*51*	CALCV	20	2	Calcite/chlorite vein.	218049	0.003	0.001

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From	To	Rock Type	Py	Cpy-Mt	Ms	Veins	(°tca	-%)	Comments	Sample#	Cu %	Au ppm
354.0	356.0	Fine to medium grained dark grey strongly potassic - quartz-sericite	5.0	1.0	*26*	CALZV	45	1		218050	0.003	0.001
356.0	358.0		2.0	4.0	*36*	CALV	25	3	Strong mag-destructive alteration in local section at 356.1m-356.6m.	218051	0.003	0.001
358.0	360.0	Fine to medium grained dark grey weakly potassic - quartz-sericite	3.0	3.0	*32*	CALV	65	5	Several local zones of mag-destructive alteration with calcite veins.	218052	0.003	0.001
360.0	362.0		4.0	4.0	*63*					218053	0.004	0.001
362.0	364.0	Fine to medium grained dark grey moderately potassic - quartz-sericite	4.0	3.0	*50*					218054	0.003	0.001
364.0	366.2		3.0	2.0	*38*	QEV	20	5	Contact with andesite augite porphory-similar to above.	218055	0.003	0.001
366.2	378	**MOTTLED ANDESITIC AUGITE PORPHYRY FLOW**										
366.2	368.0	Fine to medium grained grey moderately potassic - quartz-sericite	7.0	0.5	*16*	PYV	10	3	Andesite augite porphory similar to AAP unit above. Fine grained matrix with approximately 8-15% augite phenocrysts. Alteration is strong KQS with textures similar to that of an intrusive unit due to augite phenocrysts being replaced with calcite. Veining consists of minor calcite stockworking as well as one major quartz/epidote vein at 372.1m. Mineralization consists of disseminated pyrite in the matrix as well as small pyrite veins.	218056	0.003	0.001
368.0	370.0	Fine to medium grained grey strongly potassic - quartz-sericite	4.0	0.0	*1*					218057	0.003	0.001
370.0	372.0		8.0	0.0	*1*	PYCAL	15	2		218058	0.003	0.001
372.0	374.0		6.0	0.5	*12*	QEV	75	8		218059	0.002	0.001
374.0	376.0		8.0	0.0	*1*	PYV	15	2		218060	0.002	0.001
376.0	378.0		7.0	0.0	*0*				End of hole.	218061	0.001	0.001

Hole Number: KB-05-17

From	To	Rock Type	Py-Cpy-Mt	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
0	12.2	**OVERBURDEN**							
0.0	11.2								
11.2	12.2					Fines sampled from base of overburden.	212926	0.010	0.001
12.2	28.1	**FRAGMENTAL HETEROLITHIC TUFF**							
12.2	14.5	Fine to coarse grained green moderately oxidized		*4*		Grain supported tuff with sub to well rounded lithic fragments interbedded with volcanic siltstones and mudstones. Tuff sections consist of bedded sub to well rounded lithic clasts mostly made up of 70% fragments of andesites and dacites along with 20% intrusive clasts ranging from sand-sized to pebble. The matrix is predominantly calcitic. The volcanic mudstones and siltstones are massive in texture and have some inclusions of a black hydrocarbon material in several locales. The units are interbedded with sequences fining upwards and the alteration is moderate to strong oxidation. Composite Sampled: last 15cm of each row in the box is sampled whole in a composite which represents the entire box.	218063	0.010	0.015
14.5	19.1			*10*		Clasts of BFP and AAP.	218064	0.010	0.001
19.1	23.6			*6*		Lapilli tuff with predominantly pebble sized clasts and a calcite matrix.	218065	0.003	0.001
23.6	28.1			*5*		Massive section with silt-sized particles from 26.2m to 28.1m.	218066	0.015	0.005
28.1	32.6	**MASSIVE HETEROLITHIC SILTSTONE**							
28.1	32.6	Fine to coarse grained green moderately oxidized		*2*			218067	0.011	0.017
32.6	41.5	**BEDDED HETEROLITHIC TUFF**							
32.6	37.0	Fine to coarse grained green moderately oxidized		*2*	BED 85	Bedded tuff with sequences fining upwards.	218068	0.007	0.008

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From	To	Rock Type	Py	Cpy	Mt	Ms	Veins	(°tca-%)	Comments	Sample#	Cu %	Au ppm
37.0	41.5	Fine to coarse grained green moderately oxidized				*6*	BED	85	37.2-39.0 Volcanic siltstone. 39-41.5 Lapilli tuff.	218069	0.011	0.001
41.5	**45.8**	**BEDDED HETEROLITHIC SILTSTONE**										
41.5	45.8	Fine to coarse grained green moderately oxidized				*5*	BED	80		218070	0.014	0.001
45.8	**67.3**	**BEDDED HETEROLITHIC TUFF**										
45.8	50.1	Fine to coarse grained green moderately oxidized				*10*	BED	85		218071	0.011	0.001
50.1	53.0					*6*	BED	80		218072	0.008	0.001
53.0	55.0		3.0		0.0	*5*			Disseminated pyrite in the matrix. Sampled by halfing the core with a core saw.	218073	0.008	0.001
55.0	58.5					*5*				218074	0.015	0.001
58.5	63.0					*4*			Section ~5mm thick of organic material (hydrocarbon) at 60.8m. trending at an 80 degree angle.	218075	0.012	0.001
63.0	67.3					*2*	BED	80	Lapilli tuffs with 2 beds of silt-sized particles.	218076	0.011	0.001
67.3	**76.1**	**BEDDED HETEROLITHIC MUDSTONE**										
67.3	71.8	Fine to coarse grained maroon moderately oxidized				*3*			Volcanic mudstone	218077	0.014	0.006
71.8	76.1					*7*			71.9m to 74.2m, lapilli tuff. 74.2-76.1, volcanic mudstone.	218078	0.014	0.001
76.1	**80.2**	**BEDDED HETEROLITHIC TUFF**										
76.1	80.2	Fine to coarse grained maroon moderately oxidized				*4*	BED	85		218079	0.010	0.001
80.2	**84.6**	**BEDDED HETEROLITHIC MUDSTONE**										
80.2	84.6	Fine to coarse grained maroon moderately oxidized				*1*				218080	0.014	0.005
84.6	**93.3**	**BEDDED HETEROLITHIC TUFF**										
84.6	88.9	Fine to coarse grained maroon moderately oxidized				*3*	BED	80		218081	0.010	0.007

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From	To	Rock Type	Py-Cpy-Mt	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
88.9	93.3	Fine to coarse grained maroon moderately oxidized		*5*				218082	0.012	0.001
93.3	106.3	**BEDDED HETEROLITHIC MUDSTONE**								
93.3	97.6	Fine to coarse grained maroon moderately oxidized		*2*			Small section of organic hydrocarbon at 95.5m.-similar to above.	218083	0.014	0.001
97.6	102.0			*4*				218084	0.015	0.006
102.0	106.3			*4*			104.0-104.8 Lithic tuff.	218085	0.014	0.006
106.3	119.2	**BEDDED HETEROLITHIC TUFF**								
106.3	110.5	Fine to coarse grained maroon moderately oxidized		*9*	BED	75		218086	0.012	0.001
110.5	114.8			*10*				218087	0.010	0.001
114.8	119.2			*5*	BED	85		218089	0.010	0.001
119.2	123.3	**BEDDED HETEROLITHIC MUDSTONE**								
119.2	123.3	Fine to coarse grained maroon moderately oxidized		*5*	BED	85		218090	0.011	0.005
123.3	127.5	**BEDDED HETEROLITHIC TUFF**								
123.3	127.5	Fine to coarse grained maroon moderately oxidized		*1*			Interbedded bits of a hydrocarbon material at 125.5m..	218091	0.008	0.001
127.5	348.2	**BEDDED HETEROLITHIC CONGLOMERATE**								

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From	To	Rock Type	Py-Cpy-Mt	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
127.5	131.9	Fine to coarse grained maroon moderately oxidized		*3*			Fragmental heterolithic conglomerate made up of 70% well rounded intrusive clasts up to 30cm in diameter along with 20% rounded andesitic and BFP clasts, likely of Tackla origin. Minor clasts of cherts and feldspar porphories are also present. The matrix is made up of sand-sized to pebble sized rounded lithic fragments. Alteration is primarily moderate to strong oxidization with some lithic fragments showing evidence of propyllitic alteration prior to deposition. Rare pyrite appears in the matrix in local sections. Composite sampling of whole core from chosen sections to represent the typical makeup of the matrix of the unit.	218092	0.004	0.001
131.9	136.1			*2*	BED	75	Interbedded hydrocarbon at 133.7m.-similar to above.	218093	0.008	0.006
136.1	140.4		0.2	*6*				218094	0.003	0.044
140.4	144.7			*6*			Minor amount of pyrite in the matrix at 136.4m. Interbedded hydrocarbon at 139.2m.	218095	0.004	0.001
144.7	148.9			*1*				218096	0.006	0.001
148.9	152.8			*1*				218097	0.006	0.001
152.8	157.1			*4*				218098	0.005	0.001
157.1	161.5			*6*				218099	0.006	0.001
161.5	166.0			*3*				218100	0.002	0.001
166.0	170.5	Fine to coarse grained maroon strongly oxidized		*1*	BED	70	Cross bedding with one bed at 85 degrees cross-cutting another bed trending at 70 degrees.	218101	0.002	0.001
170.5	175.0			*0*				218102	0.002	0.001
175.0	179.2			*1*				218103	0.002	0.001
179.2	183.6			*0*				218104	0.003	0.001
183.6	188.3			*1*				218105	0.002	0.001
188.3	192.4			*0*			Angular clast of BFP at 191.0m.	218106	0.004	0.001
192.4	196.7			*1*				218107	0.003	0.001

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From	To	Rock Type	Py-Cpy-Mt	Ms	Veins (°tca-%)	Comments	Sample#	Cu %	Au ppm
196.7	200.8	Fine to coarse grained maroon strongly oxidized		1			218108	0.002	0.001
200.8	205.0			1			218109	0.002	0.001
205.0	209.3			4			218110	0.004	0.001
209.3	213.6			1			218111	0.003	0.001
213.6	217.5			1			218112	0.002	0.011
217.5	221.9			1			218113	0.001	0.001
221.9	226.2			2			218115	0.004	0.001
226.2	230.5			3			218116	0.003	0.001
230.5	234.8			1			218117	0.004	0.001
234.8	239.2			2			218118	0.003	0.001
239.2	243.6			1			218119	0.005	0.001
243.6	247.0			3			218120	0.004	0.001
247.0	252.3			2			218121	0.005	0.001
252.3	256.6			2			218122	0.004	0.001
256.6	260.9			2			218123	0.005	0.001
260.9	265.3			2			218124	0.004	0.001
265.3	269.8			3			218125	0.006	0.001
269.8	274.0			2			218126	0.005	0.001
274.0	278.3			2			218127	0.004	0.001
278.3	282.7			2			218128	0.004	0.001
282.7	287.1			2			218129	0.005	0.001
287.1	291.7			1			218130	0.009	0.026
291.7	296.2			1			218131	0.004	0.001
296.2	300.6			1			218132	0.005	0.001
300.6	305.0			2			218133	0.006	0.001

Hole Number: KB-05-17

From	To	Rock Type	Py-Cpy-Mt	Ms	Veins (°tca-%)		Comments	Sample#	Cu %	Au ppm
305.0	309.3	Fine to coarse grained maroon strongly oxidized		1				218134	0.005	0.005
309.3	313.8			3				218135	0.006	0.001
313.8	318.0	Fine to coarse grained maroon moderately oxidized		3				218136	0.006	0.008
318.0	322.6			2			Several propyllitically altered clasts-likely altered before deposition.	218137	0.005	0.001
322.6	326.9			6				218138	0.005	0.001
326.9	331.3	Fine to coarse grained green moderately oxidized		5				218139	0.006	0.165
331.3	335.6			7				218141	0.005	0.006
335.6	339.6			9				218142	0.006	0.005
339.6	344.0			7				218143	0.005	0.001
344.0	348.2			7				218144	0.005	0.006
348.2	384	**PORPHYRITIC CROWDED FELDSPAR PORPHYRY FLOW**								
348.2	350.0	Fine to coarse grained dark grey moderately oxidized		12	CTC	20	Crowded feldspar porphory with euhedral feldspar phenocrysts in an aphanitic groundmass. Alteration is moderate to strong oxidized at the top of the unit with hematite staining in cracks in the structure. At 366m, alteration becomes strong to intense KSC. Mineralization consists of small amounts of pyrite found in calcite and sericite veins as well as large blebs of pyrite found with calcite in a local section with a mosaic texture at 382m depth. Continuous sampling in 2m intervals begins.	218145	0.001	0.001
350.0	352.0			6	FLT	8		218146	0.001	0.001
352.0	354.0	Fine to coarse grained dark grey strongly oxidized		0				218147	0.001	0.001
354.0	356.0			1				218148	0.001	0.001
356.0	358.0			1			Hematite staining in cracks.	218149	0.001	0.001

Kemess Bear 2005 Diamond Drill Log

Northgate Minerals Corp.

Hole Number: KB-05-17

From	To	Rock Type	Py-Cpy-Mt	Ms	Veins (°tca-%)			Comments	Sample#	Cu %	Au ppm
358.0	360.0	Fine to coarse grained dark grey strongly oxidized		4					218150	0.001	0.001
360.0	362.0	Fine to coarse grained dark grey moderately oxidized		9	ZV	30	2		218151	0.001	0.001
362.0	364.0			1	HV	45	1	Appearance of biotite.	218152	0.001	0.001
364.0	366.0			6	CALV	10	1		218153	0.001	0.001
366.0	368.0	Fine to coarse grained dark grey strongly potassic - sericite-chlorite		4	CALV	80	0.1	Local section with a mosaic texture infilled with calcite. Stong potassic alteration with euhedral k-spar crystals.	218154	0.001	0.001
368.0	370.0	Fine to coarse grained dark grey intensely potassic - sericite-chlorite	1.0	1	FLT	70	25	Intense KSC alteration.	218155	0.001	0.001
370.0	372.0		1.0	2	CPYV	20	2	Chlorite veins with a minor amount of pyrite.	218156	0.002	0.001
372.0	374.0		2.0	2	CV	10	1		218157	0.002	0.001
374.0	376.0		0.5	7	SV	45	1	Sericite vein with a small amount of pyrite.	218158	0.002	0.001
376.0	378.0		2.5	3	CALV	30	2		218159	0.002	0.001
378.0	380.0	Fine to coarse grained dark grey strongly potassic - sericite-chlorite	1.5	0	CALV	15	1		218160	0.002	0.001
380.0	382.0		0.5	1	CALV	15	2	Calcite vein with a sminor amount of pyrite.	218161	0.002	0.001
382.0	384.0		8.0	0	SV	20	2	Mosaic texture with quartz, calcite, and pyrite infilling.	218162	0.001	0.001
								End of hole.			

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Kemess Bear 2005 Geotechnical Log

KB-05-01

Northing: 7110.45	**Total Depth:** 337.4 **m**		
Easting: 11660	**Azimuth:** 360.0°		
Elevation: 1285	**Dip:** -90°		

Drilled: 1/20/2005

From (m)	To (m)	Run (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Hardness
0.0	17.4	17.4	0.4	2%	0.2	0	3
17.4	20.4	3.0	0.2	7%	0.0	0	3
20.4	23.4	3.0	0.5	17%	0.1	0	3
23.4	26.5	3.1	2.2	71%	1.4	0	3
26.5	27.7	1.2	1.3	108%	0.4	0	3
27.7	29.0	1.3	0.5	38%	0.0	0	3
29.0	32.0	3.0	2.1	70%	0.3	0	3
32.0	35.1	3.1	2.0	65%	0.8	0	3
35.1	38.1	3.0	2.5	83%	0.9	0	3
38.1	41.8	3.7	1.7	46%	0.6	0	3
41.8	44.8	3.0	3.0	100%	1.0	0	3
44.8	47.9	3.1	2.8	90%	1.4	0	3
47.9	50.9	3.0	3.0	100%	1.5	1	3
50.9	53.9	3.0	3.0	100%	1.3	0	3
53.9	57.0	3.1	3.0	97%	2.4	1	3
57.0	60.1	3.1	3.0	97%	1.4	0	3
60.1	63.1	3.0	3.1	103%	1.6	1	3
63.1	64.9	1.8	1.8	100%	0.5	0	3
64.9	68.0	3.1	2.9	94%	1.9	1	3
68.0	71.0	3.0	3.0	100%	2.1	1	3
71.0	74.1	3.1	3.1	100%	2.4	1	3
74.1	77.1	3.0	3.0	100%	2.1	1	2
77.1	79.3	2.2	2.7	123%	1.1	0	2
79.3	81.4	2.1	1.6	76%	0.9	0	3
81.4	84.4	3.0	2.9	97%	1.8	1	3
84.4	87.5	3.1	3.1	100%	2.3	1	3
87.5	90.5	3.0	3.0	100%	3.0	1	3
90.5	93.6	3.1	3.1	100%	1.8	1	3
93.6	96.6	3.0	2.9	97%	2.6	1	3
96.6	99.7	3.1	3.0	97%	1.9	1	3
99.7	101.5	1.8	1.7	94%	0.0	0	3
101.5	104.6	3.1	2.5	81%	0.8	0	3
104.6	105.8	1.2	1.4	117%	1.0	1	3
105.8	108.8	3.0	2.9	97%	2.1	1	3

Kemess Bear 2005 Geotechnical Log

KB-05-01

Northing: 7110.45	**Total Depth:** 337.4 **m**		
Easting: 11660	**Azimuth:** 360.0°		
Elevation: 1285	**Dip:** -90°		

Drilled: 1/20/2005

From (m)	To (m)	Run (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Hardness
108.8	111.9	3.1	3.0	97%	2.8	1	3
111.9	114.9	3.0	3.1	103%	2.7	1	3
114.9	118.0	3.1	2.9	94%	2.5	1	3
118.0	121.0	3.0	3.1	103%	2.5	1	3
121.0	124.1	3.1	3.1	100%	2.8	1	3
124.1	127.1	3.0	3.0	100%	2.9	1	3
127.1	130.2	3.1	3.1	100%	2.9	1	3
130.2	133.2	3.0	3.0	100%	2.8	1	3
133.2	136.3	3.1	3.1	100%	2.6	1	3
136.3	139.3	3.0	3.1	103%	2.9	1	3
139.3	142.3	3.0	3.0	100%	2.9	1	3
142.3	145.4	3.1	3.0	97%	3.0	1	3
145.4	148.4	3.0	3.1	103%	2.8	1	3
148.4	150.9	2.5	2.4	96%	1.7	1	3
150.9	153.9	3.0	2.9	97%	2.5	1	3
153.9	157.0	3.1	3.1	100%	2.6	1	3
157.0	160.0	3.0	3.0	100%	2.6	1	3
160.0	163.1	3.1	3.3	106%	3.2	1	3
163.1	166.4	3.3	3.1	94%	2.8	1	3
166.4	169.5	3.1	3.1	100%	2.8	1	3
169.5	172.5	3.0	3.1	103%	2.9	1	3
172.5	175.6	3.1	3.0	97%	2.6	1	3
175.6	178.6	3.0	2.9	97%	2.2	1	3
178.6	181.7	3.1	2.9	94%	2.7	1	3
181.7	184.7	3.0	3.2	107%	2.4	1	3
184.7	187.8	3.1	3.3	106%	2.9	1	3
187.8	190.8	3.0	2.9	97%	2.5	1	3
190.8	193.9	3.1	2.7	87%	2.4	1	3
193.9	196.9	3.0	3.0	100%	2.9	1	3
196.9	200.3	3.4	3.1	91%	3.0	1	3
200.3	203.3	3.0	3.3	110%	3.1	1	3
203.3	206.4	3.1	2.9	94%	2.4	1	3
206.4	209.4	3.0	3.0	100%	2.7	1	3
209.4	212.5	3.1	3.0	97%	2.8	1	3

Kemess Bear 2005 Geotechnical Log

KB-05-01

Northing: 7110.45		**Total Depth:**	337.4 **m**
Easting:	11660	**Azimuth:**	360.0°
Elevation:	1285	**Dip:**	-90°

Drilled: 1/20/2005

From (m)	To (m)	Run (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Hardness
212.5	215.5	3.0	3.0	100%	2.6	1	3
215.5	218.5	3.0	2.9	97%	2.2	1	3
218.5	221.6	3.1	3.1	100%	2.6	1	3
221.6	224.6	3.0	3.1	103%	2.7	1	3
224.6	227.7	3.1	3.0	97%	2.6	1	3
227.7	230.7	3.0	3.0	100%	2.9	1	3
230.7	233.8	3.1	3.0	97%	3.0	1	3
233.8	236.8	3.0	3.1	103%	2.8	1	3
236.8	239.9	3.1	3.0	97%	2.7	1	3
239.9	242.9	3.0	3.0	100%	2.2	1	3
242.9	246.0	3.1	3.1	100%	2.4	1	3
246.0	249.0	3.0	3.0	100%	2.6	1	3
249.0	252.1	3.1	3.0	97%	2.8	1	3
252.1	255.1	3.0	2.8	93%	2.5	1	3
255.1	258.2	3.1	3.1	100%	3.0	1	3
258.2	261.2	3.0	3.0	100%	2.7	1	3
261.2	264.3	3.1	3.1	100%	2.8	1	3
264.3	267.3	3.0	3.0	100%	2.4	1	3
267.3	270.4	3.1	3.1	100%	3.0	1	3
270.4	273.4	3.0	2.9	97%	2.9	1	3
273.4	276.5	3.1	3.0	97%	2.8	1	3
276.5	279.5	3.0	3.0	100%	2.7	1	3
279.5	282.6	3.1	3.0	97%	2.4	1	3
282.6	285.6	3.0	3.0	100%	2.7	1	3
285.6	288.7	3.1	2.9	94%	2.6	1	3
288.7	291.7	3.0	3.0	100%	1.7	1	3
291.7	294.7	3.0	3.1	103%	2.6	1	3
294.7	297.8	3.1	2.9	94%	2.2	1	3
297.8	300.8	3.0	2.9	97%	2.3	1	3
300.8	303.9	3.1	3.0	97%	2.7	1	3
303.9	306.9	3.0	3.0	100%	2.5	1	3
306.9	310.0	3.1	3.1	100%	2.7	1	3
310.0	313.0	3.0	2.9	97%	2.1	1	3
313.0	316.1	3.1	2.9	94%	2.1	1	3

Kemess Bear 2005 Geotechnical Log

KB-05-01

Northing: 7110.45		**Total Depth:**	337.4 **m**
Easting:	11660	**Azimuth:**	360.0°
Elevation:	1285	**Dip:**	-90°

Drilled: 1/20/2005

From (m)	To (m)	Run (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Hardness
316.1	319.1	3.0	3.1	103%	2.2	1	3
319.1	322.2	3.1	3.0	97%	1.8	1	3
322.2	323.1	0.9	0.6	67%	0.2	0	3
323.1	326.1	3.0	2.8	93%	2.1	1	3
326.1	328.3	2.2	2.3	105%	1.8	1	3
328.3	331.3	3.0	3.1	103%	2.5	1	3
331.3	334.4	3.1	3.0	97%	2.6	1	3
334.4	337.4	3.0	3.0	100%	2.5	1	3

Kemess Bear 2005 Geotechnical Log

KB-05-02

Northing: 6754.65		**Total Depth:**	351.4 **m**
Easting:	9598	**Azimuth:**	360.0°
Elevation:	1170	**Dip:**	-88°

Drilled: 1/24/2005

From (m)	To (m)	Run (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Hardness
0.0	10.1	10.1	0.6	6%	0.1	0	3
10.1	11.3	1.2	1.3	108%	0.4	0	3
11.3	14.3	3.0	3.0	100%	2.0	1	3
14.3	17.4	3.1	3.0	97%	1.9	1	3
17.4	20.4	3.0	2.8	93%	1.7	1	3
20.4	23.5	3.1	1.7	55%	0.5	0	3
23.5	25.9	2.4	1.0	42%	0.1	0	3
25.9	29.0	3.1	2.9	94%	1.7	1	3
29.0	30.8	1.8	2.1	117%	1.1	1	3
30.8	32.6	1.8	1.7	94%	1.4	1	3
32.6	35.7	3.1	3.0	97%	2.1	1	3
35.7	38.7	3.0	3.1	103%	2.9	1	3
38.7	41.8	3.1	3.0	97%	2.8	1	3
41.8	44.8	3.0	3.1	103%	3.0	1	3
44.8	47.9	3.1	3.0	97%	2.8	1	3
47.9	50.9	3.0	3.0	100%	2.9	1	3
50.9	53.0	2.1	2.2	105%	1.3	1	3
53.0	56.4	3.4	3.0	88%	2.1	1	3
56.4	59.4	3.0	1.4	47%	0.6	0	3
59.4	61.9	2.5	1.9	76%	0.8	0	3
61.9	63.1	1.2	1.2	100%	0.7	1	3
63.1	66.1	3.0	2.9	97%	2.4	1	3
66.1	68.0	1.9	1.0	53%	0.1	0	3
68.0	71.0	3.0	2.7	90%	1.2	0	3
71.0	74.1	3.1	3.0	97%	2.6	1	3
74.1	77.1	3.0	2.9	97%	2.2	1	3
77.1	80.2	3.1	3.0	97%	3.0	1	3
80.2	83.2	3.0	3.1	103%	2.6	1	3
83.2	86.3	3.1	3.0	97%	2.9	1	3
86.3	89.3	3.0	3.0	100%	2.8	1	3
89.3	90.8	1.5	1.4	93%	1.2	1	3
90.8	93.6	2.8	2.9	104%	2.9	1	3
93.6	96.6	3.0	2.9	97%	2.6	1	3
96.6	98.7	2.1	3.1	148%	3.1	1	3

Kemess Bear 2005 Geotechnical Log

KB-05-02

Northing: 6754.65		**Total Depth:**	351.4 **m**
Easting:	9598	**Azimuth:**	360.0°
Elevation:	1170	**Dip:**	-88°

Drilled: 1/24/2005

From (m)	To (m)	Run (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Hardness
98.7	102.7	4.0	2.9	73%	2.7	1	3
102.7	105.8	3.1	3.0	97%	2.7	1	3
105.8	108.8	3.0	3.0	100%	2.7	1	3
108.8	111.9	3.1	3.0	97%	2.6	1	3
111.9	114.9	3.0	3.1	103%	2.6	1	3
114.9	118.0	3.1	2.9	94%	2.4	1	3
118.0	121.0	3.0	3.1	103%	2.6	1	3
121.0	124.1	3.1	2.8	90%	2.1	1	3
124.1	127.1	3.0	3.0	100%	1.6	1	3
248.4	251.8	3.4	3.0	88%	2.8	1	3
251.8	254.8	3.0	3.0	100%	2.6	1	3
254.8	257.9	3.1	3.1	100%	2.9	1	3
257.9	260.9	3.0	3.0	100%	1.5	1	3
260.9	264.0	3.1	3.1	100%	1.8	1	3
264.0	267.3	3.3	3.3	100%	2.4	1	3
267.3	268.5	1.2	1.2	100%	0.2	0	0
268.5	271.9	3.4	3.0	88%	1.6	0	0
271.9	274.3	2.4	2.0	83%	0.8	0	3
274.3	277.4	3.1	2.9	94%	1.0	0	3
277.4	281.3	3.9	3.9	100%	3.0	1	3
281.3	286.2	4.9	4.9	100%	3.7	1	3
286.2	291.1	4.9	4.9	100%	4.2	1	3
291.1	296.0	4.9	4.9	100%	4.7	1	3
296.0	300.8	4.8	4.8	100%	4.4	1	3
300.8	305.7	4.9	4.9	100%	3.4	1	3
305.7	310.6	4.9	4.9	100%	3.7	1	2
310.6	315.5	4.9	4.9	100%	3.0	1	1
315.5	320.3	4.8	4.8	100%	4.7	1	3
320.3	325.2	4.9	4.9	100%	4.7	1	3
325.2	329.8	4.6	4.6	100%	4.2	1	3
329.8	331.6	1.8	1.8	100%	1.5	1	3
331.6	336.2	4.6	4.6	100%	3.5	1	3
336.2	341.1	4.9	4.9	100%	4.1	1	3
341.1	346.0	4.9	4.9	100%	4.0	1	3

Kemess Bear 2005 Geotechnical Log

KB-05-02

Northing:	6754.65	**Total Depth:**	351.4 **m**
Easting:	9598	**Azimuth:**	360.0°
Elevation:	1170	**Dip:**	-88°

Drilled: 1/24/2005

From (m)	*To (m)*	*Run (m)*	*Recovery (m)*	*Recovery (%)*	*RQD (m)*	*RQD (%)*	*Hardness*
346.0	349.3	3.3	3.2	97%	2.7	1	3
349.3	351.4	2.1	2.1	100%	1.8	1	3

Kemess Bear 2005 Geotechnical Log

KB-05-03

Northing:	6070.53	**Total Depth:**	345.6 **m**
Easting:	10627	**Azimuth:**	360.0°
Elevation:	1180	**Dip:**	-90°

Drilled: 1/28/2005

From (m)	To (m)	Run (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Hardness
6.1	7.0	0.9	0.7	78%	0.0	0	3
7.0	10.1	3.1	3.1	100%	1.7	1	3
10.1	13.1	3.0	2.8	93%	1.7	1	3
13.1	16.2	3.1	3.1	100%	0.9	0	3
16.2	19.2	3.0	2.8	93%	1.2	0	3
19.2	22.3	3.1	3.0	97%	1.2	0	3
22.3	25.3	3.0	3.0	100%	1.1	0	3
25.3	28.4	3.1	3.1	100%	2.0	1	3
28.4	31.4	3.0	3.0	100%	1.7	1	3
31.4	36.3	4.9	4.9	100%	2.8	1	3
36.3	41.2	4.9	4.9	100%	3.1	1	3
41.2	44.2	3.0	3.0	100%	0.2	0	3
44.2	49.1	4.9	4.7	96%	3.4	1	3
49.1	54.0	4.9	49.0	1000%	3.0	1	3
54.0	58.8	4.8	4.8	100%	3.8	1	3
58.8	61.9	3.1	3.0	97%	2.0	1	3
61.9	66.8	4.9	4.9	100%	3.1	1	3
66.8	71.6	4.8	4.8	100%	2.5	1	3
71.6	76.5	4.9	4.1	84%	2.3	0	3
76.5	81.4	4.9	4.9	100%	3.2	1	3
81.4	86.3	4.9	4.9	100%	3.0	1	3
86.3	91.1	4.8	4.9	102%	3.8	1	3
91.1	95.4	4.3	3.1	72%	2.1	0	3
95.4	100.3	4.9	4.8	98%	4.0	1	3
100.3	105.2	4.9	4.9	100%	2.7	1	3
105.2	110.2	5.0	4.9	98%	3.9	1	3
110.2	115.2	5.0	5.0	100%	3.0	1	3
115.2	120.1	4.9	4.9	100%	3.0	1	3
120.1	123.1	3.0	3.0	100%	0.9	0	3
123.1	123.8	0.7	0.7	100%	0.1	0	3
123.8	128.6	4.8	3.8	79%	1.2	0	3
128.6	133.5	4.9	4.7	96%	2.7	1	3
133.5	138.4	4.9	4.9	100%	3.9	1	3
138.4	143.3	4.9	5.0	102%	4.5	1	3

Kemess Bear 2005 Geotechnical Log

KB-05-03

Northing: 6070.53	**Total Depth:** 345.6 **m**		
Easting: 10627	**Azimuth:** 360.0°		
Elevation: 1180	**Dip:** -90°		

Drilled: 1/28/2005

From (m)	To (m)	Run (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Hardness
143.3	148.1	4.8	4.9	102%	4.5	1	3
148.1	153.0	4.9	5.0	102%	4.2	1	3
153.0	157.9	4.9	4.8	98%	4.6	1	3
157.9	161.9	4.0	3.8	95%	3.7	1	3
161.9	166.7	4.8	4.9	102%	3.5	1	3
166.7	171.6	4.9	5.0	102%	4.0	1	3
171.6	176.5	4.9	5.0	102%	3.7	1	3
176.5	181.4	4.9	4.7	96%	3.8	1	3
181.4	186.2	4.8	4.8	100%	3.5	1	3
186.2	192.0	5.8	5.6	97%	3.2	1	3
192.0	196.9	4.9	4.8	98%	3.3	1	3
196.9	199.3	2.4	2.0	83%	1.3	1	3
199.3	204.2	4.9	5.0	102%	3.7	1	3
204.2	208.8	4.6	5.0	109%	2.9	1	3
208.8	212.1	3.3	2.9	88%	1.9	1	3
212.1	216.7	4.6	4.6	100%	2.0	0	3
216.7	218.9	2.2	1.8	82%	1.5	1	3
218.9	221.0	2.1	2.4	114%	1.6	1	3
221.0	225.3	4.3	4.1	95%	3.7	1	3
225.3	230.1	4.8	4.8	100%	2.6	1	3
230.1	231.5	1.4	1.3	93%	0.1	0	3
231.5	236.5	5.0	4.6	92%	2.0	0	3
236.5	241.4	4.9	4.8	98%	2.1	0	3
241.4	246.3	4.9	5.0	102%	2.2	0	3
246.3	250.9	4.6	4.5	98%	2.5	1	3
250.9	255.7	4.8	4.8	100%	3.4	1	3
255.7	260.6	4.9	4.9	100%	3.6	1	3
260.6	265.8	5.2	4.9	94%	3.9	1	3
265.8	270.7	4.9	4.9	100%	3.2	1	3
270.7	275.7	5.0	1.3	26%	0.7	0	3
275.7	280.7	5.0	5.0	100%	3.9	1	3
280.7	285.6	4.9	5.0	102%	3.9	1	3
285.6	290.5	4.9	4.9	100%	4.5	1	3
290.5	300.2	9.7	4.9	51%	4.7	0	3

Kemess Bear 2005 Geotechnical Log

KB-05-03

Northing:	6070.53	**Total Depth:**	345.6 **m**
Easting:	10627	**Azimuth:**	360.0°
Elevation:	1180	**Dip:**	-90°

Drilled: 1/28/2005

From (m)	To (m)	Run (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Hardness
300.2	301.5	1.3	1.4	108%	1.3	1	3
301.5	306.3	4.8	4.7	98%	4.0	1	3
306.3	311.2	4.9	4.8	98%	4.7	1	3
311.2	316.1	4.9	4.8	98%	3.6	1	3
316.1	321.0	4.9	4.8	98%	4.7	1	3
321.0	325.8	4.8	4.9	102%	4.5	1	3
325.8	331.0	5.2	5.1	98%	4.3	1	3
331.0	335.9	4.9	5.0	102%	3.9	1	3
335.9	340.8	4.9	4.8	98%	4.1	1	3
340.8	345.6	4.8	5.0	104%	4.7	1	3

Kemess Bear 2005 Geotechnical Log

KB-05-04

Northing: 3065.84	**Total Depth:** 373.1 **m**		
Easting: 12230	**Azimuth:** 236.0°		
Elevation: 1175	**Dip:** -88°		

Drilled: 2/1/2005

From (m)	To (m)	Run (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Hardness
30.5	32.6	2.1	0.2	10%	0.0	0	2
32.6	35.4	2.8	0.8	29%	0.2	0	2
35.4	38.7	3.3	3.1	94%	1.5	0	3
38.7	40.5	1.8	1.8	100%	1.7	1	3
40.5	41.8	1.3	0.8	62%	0.7	1	3
41.8	44.8	3.0	3.0	100%	2.0	1	3
44.8	47.9	3.1	3.0	97%	2.8	1	3
47.9	50.9	3.0	3.0	100%	2.2	1	3
50.9	54.0	3.1	3.0	97%	2.0	1	3
54.0	57.0	3.0	3.0	100%	2.9	1	3
57.0	60.1	3.1	3.1	100%	2.4	1	3
60.1	63.1	3.0	3.0	100%	2.8	1	3
63.1	66.1	3.0	3.0	100%	2.7	1	3
66.1	67.2	1.1	1.1	100%	1.1	1	3
67.2	71.0	3.8	3.8	100%	3.4	1	3
71.0	75.9	4.9	4.9	100%	4.1	1	2
75.9	80.8	4.9	4.6	94%	3.2	1	2
80.8	85.7	4.9	4.9	100%	2.7	1	2
85.7	90.5	4.8	4.9	102%	4.4	1	2
90.5	95.4	4.9	4.9	100%	4.0	1	2
95.4	100.3	4.9	4.9	100%	3.0	1	2
100.3	105.3	5.0	4.9	98%	3.9	1	3
105.3	110.3	5.0	4.9	98%	4.5	1	3
110.3	115.2	4.9	4.9	100%	3.8	1	3
115.2	120.1	4.9	4.9	100%	4.1	1	3
120.1	124.7	4.6	4.6	100%	3.6	1	3
124.7	129.5	4.8	4.8	100%	4.0	1	3
129.5	134.4	4.9	4.9	100%	4.0	1	3
134.4	139.3	4.9	4.9	100%	4.5	1	3
139.3	144.2	4.9	4.9	100%	3.9	1	3
144.2	149.1	4.9	4.9	100%	4.5	1	3
149.1	153.9	4.8	4.8	100%	4.3	1	3
153.9	158.8	4.9	4.9	100%	4.5	1	3
158.8	163.7	4.9	4.9	100%	4.0	1	3

Kemess Bear 2005 Geotechnical Log

KB-05-04

Northing: 3065.84	**Total Depth:** 373.1 **m**		
Easting: 12230	**Azimuth:** 236.0°		
Elevation: 1175	**Dip:** -88°		

Drilled: 2/1/2005

From (m)	To (m)	Run (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Hardness
163.7	168.6	4.9	4.5	92%	3.6	1	3
168.6	173.4	4.8	4.9	102%	3.8	1	3
173.4	175.3	1.9	1.7	89%	0.5	0	3
175.3	179.8	4.5	4.1	91%	2.8	1	3
179.8	182.9	3.1	2.9	94%	1.5	0	3
182.9	186.8	3.9	4.0	103%	2.4	1	3
186.8	192.0	5.2	4.8	92%	3.2	1	3
192.0	196.9	4.9	4.8	98%	3.2	1	3
196.9	199.0	2.1	2.0	95%	1.6	1	3
199.0	203.9	4.9	4.8	98%	3.7	1	3
203.9	207.1	3.2	2.9	91%	1.2	0	3
207.1	211.1	4.0	2.5	63%	1.7	0	3
211.1	216.7	5.6	3.3	59%	0.2	0	3
216.7	219.2	2.5	2.1	84%	1.2	0	3
219.2	224.0	4.8	3.5	73%	1.5	0	3
224.0	229.2	5.2	4.8	92%	3.5	1	3
229.2	234.1	4.9	4.4	90%	3.3	1	3
234.1	239.0	4.9	4.7	96%	3.7	1	3
239.0	243.8	4.8	4.9	102%	3.8	1	3
243.8	248.7	4.9	4.6	94%	2.7	1	3
248.7	253.6	4.9	4.6	94%	2.6	1	3
253.6	258.5	4.9	5.1	104%	3.8	1	3
258.5	263.0	4.5	4.4	98%	3.7	1	3
263.0	267.9	4.9	4.8	98%	4.1	1	3
267.9	272.8	4.9	4.7	96%	3.1	1	3
272.8	277.7	4.9	4.9	100%	4.4	1	3
277.7	282.6	4.9	4.9	100%	4.1	1	3
282.6	287.4	4.8	4.9	102%	3.3	1	3
287.4	292.3	4.9	4.8	98%	2.4	0	3
292.3	297.2	4.9	4.8	98%	2.4	0	3
297.2	302.1	4.9	5.0	102%	3.3	1	3
302.1	306.9	4.8	4.4	92%	3.3	1	3
306.9	311.8	4.9	4.6	94%	2.3	0	3
311.8	316.7	4.9	5.0	102%	3.6	1	3

Kemess Bear 2005 Geotechnical Log

KB-05-04

Northing: 3065.84		**Total Depth:**	373.1 **m**
Easting:	12230	**Azimuth:**	236.0°
Elevation:	1175	**Dip:**	-88°

Drilled: 2/1/2005

From (m)	To (m)	Run (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Hardness
316.7	321.6	4.9	4.6	94%	2.5	1	3
321.6	326.4	4.8	4.6	96%	2.4	1	3
326.4	331.3	4.9	4.3	88%	2.4	0	3
331.3	336.2	4.9	4.4	90%	2.6	1	3
336.2	341.1	4.9	4.7	96%	3.7	1	3
341.1	344.1	3.0	3.1	103%	2.6	1	3
344.1	349.0	4.9	4.8	98%	3.5	1	3
349.0	353.9	4.9	4.7	96%	2.5	1	3
353.9	358.8	4.9	4.4	90%	3.3	1	3
358.8	363.6	4.8	4.8	100%	3.3	1	3
363.6	368.2	4.6	4.9	107%	3.0	1	3
368.2	373.1	4.9	4.7	96%	2.5	1	3

Kemess Bear 2005 Geotechnical Log

KB-05-05

Northing: 5888.84	**Total Depth:** 352.7 **m**		
Easting: 13123	**Azimuth:** 60.0°		
Elevation: 1295	**Dip:** -89°		

Drilled: 2/6/2005

From (m)	To (m)	Run (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Hardness
0.0	30.5	30.5	0.0	0%	0.0	0	0
30.5	32.6	2.1	1.3	62%	0.0	0	3
32.6	35.7	3.1	2.9	94%	2.0	1	3
35.7	38.7	3.0	2.9	97%	1.9	1	3
38.7	41.8	3.1	3.0	97%	1.0	0	3
41.8	44.8	3.0	2.9	97%	2.2	1	3
44.8	47.9	3.1	2.8	90%	1.8	1	3
47.9	50.9	3.0	2.8	93%	1.5	1	3
50.9	53.9	3.0	2.7	90%	1.9	1	3
53.9	57.0	3.1	3.0	97%	2.0	1	3
57.0	60.0	3.0	2.9	97%	1.9	1	3
60.0	63.1	3.1	3.1	100%	1.6	1	3
63.1	67.1	4.0	3.3	83%	1.5	0	3
67.1	71.0	3.9	3.7	95%	2.1	1	3
71.0	75.9	4.9	4.5	92%	3.0	1	3
75.9	80.8	4.9	4.4	90%	1.8	0	3
80.8	85.6	4.8	4.7	98%	2.5	1	3
85.6	90.5	4.9	4.8	98%	2.5	1	3
90.5	95.4	4.9	3.7	76%	2.6	1	3
95.4	100.3	4.9	4.6	94%	2.8	1	3
100.3	104.2	3.9	3.6	92%	2.2	1	3
104.2	108.2	4.0	3.7	93%	1.1	0	3
108.2	113.4	5.2	4.6	88%	3.4	1	3
113.4	118.3	4.9	4.8	98%	2.9	1	3
118.3	122.8	4.5	4.5	100%	3.6	1	3
122.8	127.7	4.9	4.8	98%	3.8	1	3
127.7	132.6	4.9	4.8	109%	3.4	1	3
132.6	136.5	3.9	3.6	92%	2.8	1	3
136.5	141.4	4.9	4.4	90%	3.2	1	3
141.4	146.0	4.6	4.7	102%	3.1	1	3
146.0	150.6	4.6	4.4	96%	2.8	1	3
150.6	155.4	4.8	4.9	102%	4.0	1	3
155.4	160.6	5.2	4.7	90%	2.8	1	3
160.6	165.5	4.9	4.9	100%	3.6	1	3

Kemess Bear 2005 Geotechnical Log

KB-05-05

Northing: 5888.84		**Total Depth:**	352.7 **m**
Easting: 13123		**Azimuth:**	60.0°
Elevation: 1295		**Dip:**	-89°

Drilled: 2/6/2005

From (m)	To (m)	Run (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Hardness
165.5	169.5	4.0	3.6	90%	2.1	1	3
169.5	174.0	4.5	4.5	100%	3.3	1	3
174.0	178.9	4.9	4.8	98%	2.7	1	3
178.9	182.0	3.1	1.5	48%	1.0	0	3
182.0	186.8	4.8	4.8	100%	4.0	1	3
186.8	191.7	4.9	4.6	94%	3.9	1	3
191.7	196.6	4.9	4.7	96%	2.5	1	3
196.6	201.2	4.6	3.2	70%	1.9	0	3
201.2	206.4	5.2	4.3	83%	1.6	0	3
206.4	211.1	4.7	5.0	106%	4.5	1	3
211.1	216.1	5.0	4.4	88%	2.5	1	3
216.1	219.5	3.4	3.0	88%	1.6	0	3
219.5	224.3	4.8	4.9	102%	4.5	1	3
224.3	229.2	4.9	4.6	94%	4.2	1	3
229.2	234.1	4.9	4.6	94%	2.8	1	3
234.1	238.7	4.6	4.6	100%	3.4	1	3
238.7	242.0	3.3	3.4	103%	2.5	1	3
242.0	247.2	5.2	5.1	98%	3.0	1	3
247.2	248.9	1.7	1.8	106%	1.3	1	3
248.9	253.3	4.4	4.2	95%	2.4	1	3
253.3	258.2	4.9	4.7	96%	3.2	1	3
258.2	263.0	4.8	4.8	100%	4.4	1	3
263.0	267.9	4.9	4.9	100%	4.4	1	3
267.9	272.8	4.9	4.9	100%	4.2	1	3
272.8	277.7	4.9	4.9	100%	4.6	1	3
277.7	282.5	4.8	4.8	100%	4.5	1	3
282.5	287.2	4.7	4.9	104%	4.7	1	3
287.2	292.3	5.1	4.9	96%	4.7	1	3
292.3	297.2	4.9	4.9	100%	4.5	1	3
297.2	302.0	4.8	4.8	100%	4.3	1	3
302.0	306.9	4.9	4.9	100%	4.2	1	3
306.9	311.8	4.9	4.9	100%	4.4	1	3
311.8	316.7	4.9	4.9	100%	4.4	1	3
316.7	320.0	3.3	3.2	97%	2.9	1	3

Kemess Bear 2005 Geotechnical Log

KB-05-05

Northing: 5888.84		**Total Depth:** 352.7 **m**	
Easting: 13123		**Azimuth:** 60.0°	
Elevation: 1295		**Dip:** -89°	

Drilled: 2/6/2005

From (m)	To (m)	Run (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Hardness
320.0	324.9	4.9	4.7	96%	3.5	1	3
324.9	329.8	4.9	4.9	100%	4.7	1	3
329.8	334.7	4.9	4.9	100%	3.8	1	3
334.7	338.0	3.3	3.3	100%	2.7	1	3
338.0	342.9	4.9	4.9	100%	3.9	1	3
342.9	347.8	4.9	4.9	100%	4.1	1	3
347.8	352.7	4.9	5.0	102%	4.6	1	3

Kemess Bear 2005 Geotechnical Log

KB-05-06

Northing:	6618.04	Total Depth:	254.5 m
Easting:	12246	Azimuth:	0.0°
Elevation:	1295	Dip:	-90°

Drilled: 2/13/2005

From (m)	To (m)	Run (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Hardness
0.0	21.3	21.3	0.0	0%	0.0	0	0
21.3	23.5	2.2	1.4	64%	1.2	1	1
23.5	26.5	3.0	0.7	23%	0.0	0	1
26.5	29.6	3.1	0.1	3%	0.1	0	1
29.6	32.6	3.0	2.5	83%	1.6	1	1
32.6	35.7	3.1	1.2	39%	0.8	0	1
35.7	38.7	3.0	0.6	20%	0.0	0	1
38.7	41.5	2.8	1.1	39%	0.6	0	1
41.5	44.5	3.0	0.3	10%	0.0	0	1
44.5	47.6	3.1	2.5	81%	0.6	0	3
47.6	50.9	3.3	2.9	88%	2.5	1	3
50.9	54.0	3.1	3.1	100%	2.0	1	3
54.0	57.0	3.0	2.5	83%	0.9	0	3
57.0	60.1	3.1	2.0	65%	0.8	0	3
60.1	63.1	3.0	2.6	87%	0.6	0	3
63.1	66.1	3.0	2.9	97%	1.3	0	3
66.1	69.2	3.1	2.9	94%	1.7	1	3
69.2	72.2	3.0	2.8	93%	1.5	1	3
72.2	75.3	3.1	3.0	97%	1.6	1	3
75.3	78.3	3.0	2.8	93%	2.0	1	3
78.3	81.4	3.1	2.8	90%	1.7	1	3
81.4	84.4	3.0	2.6	87%	1.5	1	3
84.4	87.5	3.1	3.0	97%	1.7	1	3
87.5	91.1	3.6	3.2	89%	1.3	0	3
91.1	95.4	4.3	3.8	88%	2.7	1	3
95.4	97.5	2.1	2.0	95%	0.8	0	3
97.5	102.4	4.9	4.6	94%	2.0	0	3
102.4	104.2	1.8	1.5	83%	0.4	0	3
104.2	107.0	2.8	1.9	68%	1.1	0	3
107.0	107.6	0.6	0.1	17%	0.0	0	3
107.6	109.1	1.5	1.1	73%	0.2	0	3
109.1	113.7	4.6	3.9	85%	1.3	0	3
113.7	117.4	3.7	3.4	92%	1.8	0	3
117.4	121.9	4.5	4.3	96%	2.8	1	3

Kemess Bear 2005 Geotechnical Log

KB-05-06

Northing:	6618.04	**Total Depth:**	254.5 **m**
Easting:	12246	**Azimuth:**	0.0°
Elevation:	1295	**Dip:**	-90°

Drilled: 2/13/2005

From (m)	To (m)	Run (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Hardness
121.9	126.8	4.9	4.6	94%	3.3	1	3
126.8	130.2	3.4	3.1	91%	1.8	1	3
130.2	132.0	1.8	1.9	106%	1.5	1	3
132.0	136.3	4.3	4.0	93%	2.2	1	3
136.3	139.6	3.3	3.0	91%	1.5	0	3
139.6	142.0	2.4	1.9	79%	0.7	0	3
142.0	144.2	2.2	1.9	86%	1.2	1	3
144.2	146.3	2.1	1.9	90%	1.3	1	3
146.3	147.2	0.9	1.1	122%	0.7	1	3
147.2	151.8	4.6	3.6	78%	2.3	0	3
151.8	153.0	1.2	0.2	17%	0.0	0	3
153.0	155.5	2.5	2.2	88%	1.0	0	3
155.5	156.7	1.2	1.0	83%	0.6	1	3
156.7	158.8	2.1	1.5	71%	0.8	0	3
158.8	162.3	3.5	3.2	91%	1.7	0	3
162.3	166.7	4.4	3.7	84%	1.3	0	3
166.7	171.0	4.3	3.5	81%	1.5	0	3
171.0	175.6	4.6	4.6	100%	3.9	1	3
175.6	177.7	2.1	2.4	114%	1.4	1	3
177.7	179.2	1.5	1.1	73%	0.3	0	3
179.2	183.8	4.6	4.5	98%	2.4	1	3
183.8	188.7	4.9	4.9	100%	3.5	1	3
188.7	193.6	4.9	4.9	100%	3.0	1	3
193.6	198.4	4.8	4.8	100%	2.7	1	3
198.4	202.7	4.3	4.3	100%	2.6	1	3
202.7	207.6	4.9	4.9	100%	3.7	1	3
207.6	211.2	3.6	3.7	103%	3.3	1	3
211.2	214.3	3.1	3.5	113%	2.6	1	3
214.3	217.3	3.0	2.8	93%	1.6	1	3
217.3	218.5	1.2	1.2	100%	0.5	0	3
218.5	222.2	3.7	3.2	86%	2.4	1	3
222.2	226.5	4.3	4.0	93%	3.1	1	3
226.5	230.7	4.2	4.0	95%	3.0	1	3
230.7	235.6	4.9	4.9	100%	4.6	1	3

Kemess Bear 2005 Geotechnical Log

KB-05-06

Northing: 6618.04	**Total Depth:** 254.5 **m**		
Easting: 12246	**Azimuth:** 0.0°		
Elevation: 1295	**Dip:** -90°		

Drilled: 2/13/2005

From (m)	To (m)	Run (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Hardness
235.6	240.5	4.9	4.9	100%	4.1	1	3
240.5	241.7	1.2	1.2	100%	0.9	1	3
241.7	244.8	3.1	3.1	100%	2.5	1	3
244.8	246.0	1.2	1.1	92%	0.0	0	3
246.0	248.1	2.1	2.1	100%	1.6	1	3
248.1	251.5	3.4	3.3	97%	3.1	1	3
251.5	254.5	3.0	2.9	97%	1.5	1	3

Kemess Bear 2005 Geotechnical Log

KB-05-07

Northing:	7110	**Total Depth:**	348.4 **m**
Easting:	11260	**Azimuth:**	0.0°
Elevation:	1275	**Dip:**	-90°

Drilled: 2/17/2005

From (m)	To (m)	Run (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Hardness
0.0	36.6	36.6	0.0	0%	0.0	0	0
36.6	38.7	2.1	0.4	19%	0.0	0	3
38.7	41.8	3.1	1.1	35%	0.1	0	2
41.8	44.8	3.0	0.9	30%	0.1	0	2
44.8	47.9	3.1	0.4	13%	0.0	0	2
47.9	50.9	3.0	0.5	17%	0.0	0	2
50.9	54.0	3.1	2.6	84%	0.3	0	3
54.0	57.0	3.0	2.3	76%	0.6	0	3
57.0	60.1	3.1	2.7	87%	0.7	0	3
60.1	61.9	1.8	2.0	111%	0.3	0	3
61.9	64.0	2.1	2.1	100%	0.8	0	3
64.0	66.1	2.1	2.0	95%	1.1	1	3
66.1	69.2	3.1	3.0	97%	2.0	1	3
69.2	72.2	3.0	3.0	100%	2.1	1	3
72.2	75.3	3.1	2.7	87%	1.1	0	3
75.3	78.3	3.0	3.1	103%	1.8	1	3
78.3	81.4	3.1	3.0	97%	2.5	1	3
81.4	84.4	3.0	3.0	100%	2.3	1	3
84.4	87.5	3.1	3.0	97%	2.0	1	3
87.5	90.5	3.0	3.0	100%	1.5	1	3
90.5	93.6	3.1	3.0	97%	2.5	1	3
93.6	96.6	3.0	3.0	100%	2.3	1	3
96.6	99.7	3.1	2.9	94%	1.8	1	3
99.7	102.7	3.0	3.1	103%	1.9	1	3
102.7	105.8	3.1	3.1	100%	1.9	1	3
105.8	108.8	3.0	2.8	93%	2.4	1	3
108.8	111.9	3.1	3.0	97%	2.0	1	3
111.9	114.9	3.0	3.0	100%	2.2	1	3
114.9	118.0	3.1	3.0	97%	1.4	0	3
118.0	121.0	3.0	3.0	100%	1.6	1	3
121.0	124.1	3.1	3.1	100%	2.3	1	3
124.1	127.1	3.0	3.1	103%	2.0	1	3
127.1	130.2	3.1	3.0	97%	1.8	1	3
130.2	133.2	3.0	3.0	100%	1.9	1	3

Kemess Bear 2005 Geotechnical Log

KB-05-07

Northing:	7110	**Total Depth:**	348.4 **m**
Easting:	11260	**Azimuth:**	0.0°
Elevation:	1275	**Dip:**	-90°

Drilled: 2/17/2005

From (m)	To (m)	Run (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Hardness
133.2	136.3	3.1	3.1	100%	0.8	0	3
136.3	139.3	3.0	3.1	103%	0.8	0	3
139.3	142.3	3.0	2.9	97%	1.9	1	3
142.3	145.4	3.1	3.0	97%	1.4	0	3
145.4	148.4	3.0	3.0	100%	2.5	1	3
148.4	151.5	3.1	2.9	94%	1.5	0	3
151.5	154.5	3.0	2.8	93%	1.9	1	3
154.5	157.6	3.1	3.2	103%	1.7	1	3
157.6	160.6	3.0	3.0	100%	2.5	1	3
160.6	163.7	3.1	3.1	100%	2.6	1	3
163.7	166.7	3.0	3.1	103%	0.4	0	3
166.7	169.2	2.5	3.1	124%	0.2	0	3
169.2	171.6	2.4	2.9	121%	0.2	0	3
171.6	172.8	1.2	1.2	100%	0.1	0	3
172.8	175.9	3.1	3.1	100%	0.5	0	3
175.9	178.9	3.0	3.1	103%	1.2	0	3
178.9	181.5	2.6	3.1	119%	1.3	1	3
181.5	185.0	3.5	3.1	89%	1.1	0	3
185.0	188.1	3.1	3.1	100%	0.3	0	3
188.1	190.5	2.4	2.4	100%	0.6	0	3
190.5	192.9	2.4	2.4	100%	0.8	0	3
192.9	196.0	3.1	3.1	100%	1.6	1	3
196.0	199.0	3.0	3.0	100%	1.7	1	3
199.0	202.1	3.1	3.1	100%	1.2	0	3
202.1	205.1	3.0	3.0	100%	2.5	1	3
205.1	208.2	3.1	3.1	100%	2.9	1	3
208.2	211.2	3.0	3.1	103%	2.1	1	3
211.2	213.7	2.5	2.5	100%	2.4	1	3
213.7	215.5	1.8	1.8	100%	1.4	1	3
215.5	218.5	3.0	3.1	103%	2.4	1	3
218.5	221.6	3.1	3.1	100%	2.3	1	3
221.6	224.6	3.0	3.1	103%	2.5	1	3
224.6	227.7	3.1	3.1	100%	2.7	1	3
227.7	230.7	3.0	3.0	100%	2.9	1	3

Kemess Bear 2005 Geotechnical Log

KB-05-07

Northing:	7110	**Total Depth:**	348.4 **m**
Easting:	11260	**Azimuth:**	0.0°
Elevation:	1275	**Dip:**	-90°

Drilled: 2/17/2005

From (m)	To (m)	Run (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Hardness
230.7	233.8	3.1	3.1	100%	2.4	1	3
233.8	236.8	3.0	3.1	103%	2.4	1	3
236.8	239.9	3.1	3.1	100%	2.7	1	3
239.9	242.9	3.0	3.1	102%	2.5	1	3
242.9	246.0	3.1	3.0	98%	2.6	1	3
246.0	249.0	3.0	3.1	103%	2.3	1	3
249.0	252.1	3.1	3.0	97%	2.0	1	3
252.1	255.1	3.0	2.9	97%	1.2	0	3
255.1	258.2	3.1	2.9	94%	1.8	1	3
258.2	261.2	3.0	2.9	97%	2.3	1	3
261.2	264.2	3.0	3.0	100%	2.3	1	3
264.2	267.3	3.1	3.0	97%	2.7	1	3
267.3	270.4	3.1	3.0	97%	2.3	1	3
270.4	273.4	3.0	3.1	103%	2.3	1	3
273.4	276.5	3.1	3.0	97%	1.4	0	3
276.5	279.5	3.0	2.9	97%	1.9	1	3
279.5	282.6	3.1	3.0	97%	1.8	1	3
282.6	285.6	3.0	2.8	93%	1.2	0	3
285.6	288.7	3.1	3.0	97%	2.2	1	3
288.7	291.7	3.0	3.0	100%	2.2	1	3
291.7	294.7	3.0	3.0	100%	2.4	1	3
294.7	297.8	3.1	3.1	100%	2.3	1	3
297.8	300.8	3.0	3.0	100%	2.0	1	3
300.8	303.9	3.1	3.1	100%	2.3	1	3
303.9	306.9	3.0	3.0	100%	1.2	0	3
306.9	310.0	3.1	3.1	100%	2.3	1	3
310.0	313.0	3.0	3.0	100%	2.0	1	3
313.0	316.0	3.0	3.0	100%	1.9	1	3
316.0	319.1	3.1	3.1	100%	2.0	1	3
319.1	321.0	1.9	1.7	89%	1.4	1	3
321.0	324.0	3.0	3.0	100%	1.1	0	3
324.0	327.1	3.1	3.1	100%	1.7	1	3
327.1	330.1	3.0	3.0	100%	1.5	1	3
330.1	333.2	3.1	3.1	100%	1.7	1	3

Kemess Bear 2005 Geotechnical Log

KB-05-07

Northing:	7110	**Total Depth:**	348.4 **m**
Easting:	11260	**Azimuth:**	0.0°
Elevation:	1275	**Dip:**	-90°

Drilled: 2/17/2005

From (m)	To (m)	Run (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Hardness
333.2	336.2	3.0	3.0	100%	2.1	1	3
336.2	339.2	3.0	3.0	100%	2.6	1	3
339.2	342.3	3.1	3.1	100%	2.2	1	3
342.3	345.3	3.0	3.0	100%	2.5	1	3
345.3	348.4	3.1	3.1	100%	2.1	1	3

Kemess Bear 2005 Geotechnical Log

KB-05-08

Northing:	9055	**Total Depth:**	253.2 **m**
Easting:	6736	**Azimuth:**	235.0°
Elevation:	1240	**Dip:**	-70°

Drilled: 5/11/2005

From (m)	To (m)	Run (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Hardness
0.0	4.6	4.6	0.0	0%	0.0	0	0
4.6	6.1	1.5	1.4	93%	0.2	0	3
6.1	9.1	3.0	2.8	93%	1.2	0	3
9.1	12.2	3.1	3.0	97%	1.5	0	3
12.2	15.2	3.0	3.1	103%	1.2	0	3
15.2	18.3	3.1	3.0	97%	1.6	1	3
18.3	21.3	3.0	3.0	100%	2.6	1	3
21.3	24.4	3.1	3.0	97%	2.4	1	3
24.4	27.4	3.0	3.0	100%	1.8	1	3
27.4	30.5	3.1	3.1	100%	1.6	1	3
30.5	33.5	3.0	2.7	90%	1.9	1	3
33.5	36.6	3.1	3.5	113%	3.0	1	3
36.6	39.6	3.0	2.8	93%	1.5	1	3
39.6	42.7	3.1	3.0	97%	2.3	1	3
42.7	45.7	3.0	2.8	93%	1.9	1	3
45.7	48.8	3.1	3.2	103%	2.1	1	3
48.8	51.8	3.0	3.0	100%	1.9	1	3
51.8	54.9	3.1	3.0	97%	2.0	1	3
54.9	57.9	3.0	2.8	93%	2.0	1	3
57.9	61.0	3.1	3.0	97%	2.4	1	3
61.0	64.0	3.0	3.0	100%	2.7	1	3
64.0	67.1	3.1	3.1	100%	1.9	1	3
67.1	70.1	3.0	3.1	103%	2.9	1	3
70.1	73.2	3.1	3.0	97%	2.6	1	3
73.2	76.2	3.0	3.1	103%	2.4	1	3
76.2	79.3	3.1	3.0	97%	2.6	1	3
79.3	82.3	3.0	3.0	100%	2.7	1	3
82.3	85.3	3.0	3.0	100%	1.7	1	3
85.3	88.4	3.1	3.0	97%	2.6	1	3
88.4	91.4	3.0	3.1	103%	2.2	1	3
91.4	94.5	3.1	3.1	100%	1.9	1	3
94.5	97.5	3.0	3.0	100%	2.9	1	3
97.5	100.6	3.1	3.1	100%	2.7	1	3
100.6	103.6	3.0	3.0	100%	2.6	1	3

Kemess Bear 2005 Geotechnical Log

KB-05-08

Northing:	9055	**Total Depth:**	253.2 **m**
Easting:	6736	**Azimuth:**	235.0°
Elevation:	1240	**Dip:**	-70°

Drilled: 5/11/2005

From (m)	To (m)	Run (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Hardness
103.6	106.7	3.1	3.0	97%	2.6	1	3
106.7	109.7	3.0	3.0	100%	2.6	1	3
109.7	112.8	3.1	3.0	97%	2.0	1	3
112.8	115.8	3.0	3.0	100%	2.8	1	3
115.8	118.9	3.1	3.0	97%	2.6	1	3
118.9	121.9	3.0	3.1	103%	2.2	1	3
121.9	125.0	3.1	3.0	97%	2.6	1	3
125.0	128.0	3.0	3.0	100%	2.8	1	3
128.0	131.1	3.1	3.0	97%	2.9	1	3
131.1	134.1	3.0	3.0	100%	2.7	1	3
134.1	137.2	3.1	3.1	100%	2.6	1	3
137.2	140.2	3.0	3.0	100%	2.7	1	3
140.2	143.3	3.1	3.1	100%	2.6	1	3
143.3	146.3	3.0	3.0	100%	2.9	1	3
146.3	149.4	3.1	3.0	97%	2.9	1	3
149.4	152.4	3.0	3.1	103%	2.8	1	3
152.4	155.5	3.1	3.0	97%	2.7	1	3
155.5	158.5	3.0	3.1	103%	3.0	1	3
158.5	161.5	3.0	3.0	100%	2.8	1	3
161.5	164.6	3.1	3.0	97%	2.8	1	3
164.6	167.6	3.0	3.0	100%	2.7	1	3
167.6	170.7	3.1	3.1	100%	2.4	1	3
170.7	173.7	3.0	3.0	100%	2.9	1	3
173.7	176.8	3.1	3.1	100%	2.3	1	3
176.8	179.8	3.0	3.0	100%	2.3	1	3
179.8	182.9	3.1	3.0	97%	2.3	1	3
182.9	185.9	3.0	2.8	93%	1.9	1	3
185.9	189.0	3.1	3.0	97%	2.3	1	3
189.0	192.0	3.0	3.1	103%	2.2	1	3
192.0	195.1	3.1	3.1	100%	2.7	1	3
195.1	198.1	3.0	3.1	103%	2.5	1	3
198.1	201.2	3.1	3.0	97%	2.4	1	3
201.2	204.2	3.0	2.9	97%	2.0	1	3
204.2	207.3	3.1	3.0	97%	2.2	1	3

Kemess Bear 2005 Geotechnical Log

KB-05-08

Northing:	9055	**Total Depth:**	253.2 **m**
Easting:	6736	**Azimuth:**	235.0°
Elevation:	1240	**Dip:**	-70°

Drilled: 5/11/2005

From (m)	To (m)	Run (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Hardness
207.3	210.3	3.0	3.1	103%	2.0	1	3
210.3	213.3	3.0	2.9	97%	1.4	0	3
213.3	216.4	3.1	3.1	100%	2.5	1	3
216.4	219.5	3.1	3.1	100%	2.7	1	3
219.5	222.5	3.0	2.9	97%	2.4	1	3
222.5	225.6	3.1	3.0	97%	2.7	1	3
225.6	228.6	3.0	3.0	100%	2.6	1	3
228.6	231.7	3.1	2.9	94%	2.2	1	3
231.7	234.7	3.0	3.0	100%	2.0	1	3
234.7	237.7	3.0	2.7	90%	2.5	1	3
237.7	240.8	3.1	3.1	100%	2.3	1	3
240.8	243.8	3.0	2.9	97%	2.0	1	3
243.8	246.8	3.0	2.9	97%	1.8	1	3
246.8	249.9	3.1	3.1	100%	2.4	1	3
249.9	253.0	3.1	2.8	90%	1.9	1	3

Kemess Bear 2005 Geotechnical Log

KB-05-09

Northing:	8919	**Total Depth:**	68.3 **m**
Easting:	6716	**Azimuth:**	55.0°
Elevation:	1240	**Dip:**	-70°

Drilled: 5/12/2005

From (m)	To (m)	Run (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Hardness
0.0	6.1	6.1	0.0	0%	0.0	0	0
6.1	9.1	3.0	1.6	53%	0.0	0	3
9.1	12.2	3.1	2.1	68%	0.2	0	3
12.2	15.2	3.0	2.2	73%	1.5	1	3
15.2	18.3	3.1	3.0	97%	2.1	1	3
18.3	21.3	3.0	3.0	100%	2.0	1	3
21.3	24.4	3.1	2.9	94%	1.8	1	3
24.4	27.4	3.0	3.0	100%	1.9	1	3
27.4	30.5	3.1	3.0	97%	1.6	1	3
30.5	33.5	3.0	3.0	100%	1.1	0	3
33.5	36.6	3.1	2.9	94%	2.3	1	3
36.6	39.6	3.0	3.1	103%	2.0	1	3
39.6	42.7	3.1	3.0	97%	2.1	1	3
42.7	45.7	3.0	3.0	100%	2.5	1	3
45.7	48.8	3.1	3.0	97%	2.3	1	3
48.8	51.8	3.0	3.1	103%	2.6	1	3
51.8	54.9	3.1	3.0	97%	2.8	1	3
54.9	57.9	3.0	2.8	93%	2.8	1	3
57.9	61.0	3.1	3.0	97%	2.7	1	3
61.0	64.0	3.0	3.0	100%	2.6	1	3
64.0	67.1	3.1	3.1	100%	2.6	1	3
67.1	68.3	1.2	1.2	100%	0.9	1	3

Northgate Minerals Corp.

Kemess Bear 2005 Geotechnical Log

KB-05-09B

Northing:	8919	**Total Depth:**	168 **m**
Easting:	6716	**Azimuth:**	55.0°
Elevation:	1240	**Dip:**	-70°

Drilled: 5/13/2005

From (m)	To (m)	Run (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Hardness
12.8	13.4	0.6	0.4	67%	0.0	0	3
13.4	15.2	1.8	1.3	72%	0.3	0	3
15.2	18.3	3.1	2.2	71%	0.5	0	3
18.3	21.3	3.0	3.0	100%	0.8	0	3
21.3	24.4	3.1	3.1	100%	1.3	0	3
24.4	27.4	3.0	3.0	100%	1.9	1	3
27.4	30.5	3.1	3.1	100%	2.3	1	3
30.5	33.5	3.0	2.7	90%	2.0	1	3
33.5	36.6	3.1	3.1	100%	1.4	0	3
36.6	39.6	3.0	3.0	100%	2.4	1	3
39.6	42.7	3.1	3.1	100%	2.2	1	3
42.7	45.7	3.0	3.0	100%	2.1	1	3
45.7	48.8	3.1	2.9	94%	1.5	0	3
48.8	51.8	3.0	3.0	100%	2.8	1	3
51.8	54.9	3.1	3.1	100%	2.7	1	3
54.9	57.9	3.0	3.0	100%	2.8	1	3
57.9	61.0	3.1	3.1	100%	2.9	1	3
61.0	64.0	3.0	2.3	77%	1.6	1	3
64.0	67.1	3.1	2.8	90%	2.0	1	3
67.1	70.1	3.0	2.8	93%	2.3	1	3
70.1	73.2	3.1	3.1	100%	2.5	1	3
73.2	76.2	3.0	3.0	100%	2.3	1	3
76.2	79.3	3.1	2.9	94%	2.5	1	3
79.3	82.3	3.0	3.0	100%	2.8	1	3
82.3	85.3	3.0	3.0	100%	2.2	1	3
85.3	88.4	3.1	3.0	97%	2.3	1	3
88.4	91.4	3.0	3.0	100%	2.5	1	3
91.4	94.5	3.1	3.1	100%	2.7	1	3
94.5	97.5	3.0	3.0	100%	2.6	1	3
97.5	100.6	3.1	3.1	100%	2.7	1	3
100.6	103.6	3.0	3.0	100%	2.2	1	3
103.6	106.7	3.1	3.0	97%	2.1	1	3
106.7	109.7	3.0	3.0	100%	2.5	1	3
109.7	112.8	3.1	3.1	100%	2.5	1	3

Kemess Bear 2005 Geotechnical Log

KB-05-09B

Northing:	8919	**Total Depth:**	168 **m**
Easting:	6716	**Azimuth:**	55.0°
Elevation:	1240	**Dip:**	-70°

Drilled: 5/13/2005

From (m)	To (m)	Run (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Hardness
112.8	115.8	3.0	3.0	100%	2.8	1	3
115.8	118.9	3.1	3.1	100%	2.7	1	3
118.9	121.9	3.0	3.0	100%	2.8	1	3
121.9	125.0	3.1	3.1	100%	2.5	1	3
125.0	128.0	3.0	3.0	100%	2.7	1	3
128.0	131.1	3.1	3.1	100%	2.7	1	3
131.1	134.1	3.0	3.0	100%	2.3	1	3
134.1	137.2	3.1	3.1	100%	2.8	1	3
137.2	140.2	3.0	3.0	100%	2.9	1	3
140.2	143.3	3.1	3.1	100%	2.6	1	3
143.3	146.3	3.0	3.0	100%	2.4	1	3
146.3	149.4	3.1	3.1	100%	3.0	1	3
149.4	152.4	3.0	3.0	100%	2.3	1	3
152.4	155.5	3.1	3.1	100%	2.5	1	3
155.5	158.5	3.0	3.0	100%	2.6	1	3
158.5	161.5	3.0	3.0	100%	2.5	1	3
161.5	164.6	3.1	3.1	100%	2.4	1	3
164.6	167.6	3.0	3.0	100%	2.8	1	3

Kemess Bear 2005 Geotechnical Log

KB-05-10

Northing:	7346	**Total Depth:**	353.8 **m**
Easting:	9623	**Azimuth:**	0.0°
Elevation:	1300	**Dip:**	-90°

Drilled: 5/18/2005

From (m)	To (m)	Run (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Hardness
67.3	70.1	2.8	0.6	21%	0.0	0	3
70.1	73.2	3.1	2.6	84%	0.8	0	3
73.2	76.2	3.0	2.1	70%	1.1	0	3
76.2	79.3	3.1	2.3	74%	1.0	0	3
79.3	82.3	3.0	2.9	97%	1.4	0	3
82.3	85.3	3.0	2.8	93%	1.7	1	3
85.3	88.4	3.1	3.0	97%	1.5	0	3
88.4	91.4	3.0	2.8	93%	0.4	0	3
91.4	94.5	3.1	3.0	97%	1.6	1	3
94.5	97.5	3.0	2.7	90%	0.3	0	3
97.5	100.6	3.1	2.9	94%	0.9	0	3
100.6	103.6	3.0	3.0	100%	1.4	0	3
103.6	106.7	3.1	2.8	90%	1.8	1	3
106.7	109.7	3.0	3.0	100%	1.1	0	3
109.7	112.8	3.1	3.0	97%	2.5	1	3
112.8	115.8	3.0	2.8	93%	0.9	0	3
115.8	118.9	3.1	1.8	58%	0.7	0	3
118.9	121.9	3.0	3.1	103%	1.2	0	3
121.9	125.0	3.1	3.0	97%	2.6	1	3
125.0	128.0	3.0	3.0	100%	2.9	1	3
128.0	131.1	3.1	3.1	100%	3.1	1	3
131.1	134.1	3.0	2.8	93%	2.3	1	3
134.1	137.2	3.1	3.1	100%	3.0	1	3
137.2	140.2	3.0	3.0	100%	2.8	1	3
140.2	143.3	3.1	3.0	97%	2.6	1	3
143.3	146.3	3.0	3.1	103%	2.3	1	3
146.3	149.4	3.1	2.9	94%	1.8	1	3
149.4	152.4	3.0	3.1	103%	2.6	1	3
152.4	155.5	3.1	3.0	97%	2.5	1	3
155.5	158.5	3.0	3.0	100%	2.7	1	3
158.5	161.5	3.0	3.1	103%	2.7	1	3
161.5	164.6	3.1	3.0	97%	2.9	1	3
164.6	167.6	3.0	3.0	100%	2.9	1	3
167.6	170.7	3.1	3.0	97%	3.0	1	3

Kemess Bear 2005 Geotechnical Log

KB-05-10

Northing:	7346	**Total Depth:**	353.8 **m**
Easting:	9623	**Azimuth:**	0.0°
Elevation:	1300	**Dip:**	-90°

Drilled: 5/18/2005

From (m)	To (m)	Run (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Hardness
170.7	173.7	3.0	3.0	100%	2.8	1	3
173.7	176.8	3.1	3.0	97%	2.7	1	3
176.8	179.8	3.0	3.0	100%	2.6	1	3
179.8	182.9	3.1	3.1	100%	2.7	1	3
182.9	185.9	3.0	3.0	100%	2.9	1	3
185.9	189.0	3.1	3.0	97%	2.6	1	3
189.0	192.0	3.0	3.1	103%	3.0	1	3
192.0	195.1	3.1	3.0	97%	2.8	1	3
195.1	198.1	3.0	3.0	100%	2.7	1	3
198.1	201.2	3.1	3.0	97%	2.8	1	3
201.2	204.2	3.0	2.9	97%	2.9	1	3
204.2	207.3	3.1	3.1	100%	3.0	1	3
207.3	210.3	3.0	3.1	103%	3.0	1	3
210.3	213.4	3.1	3.0	97%	2.9	1	3
213.4	216.4	3.0	3.0	100%	2.9	1	3
216.4	219.5	3.1	3.1	100%	2.9	1	3
219.5	222.5	3.0	3.1	103%	2.8	1	3
222.5	225.6	3.1	3.0	97%	2.9	1	3
225.6	228.6	3.0	3.0	100%	2.9	1	3
228.6	231.7	3.1	3.0	97%	2.6	1	3
231.7	234.7	3.0	2.9	97%	2.8	1	3
234.7	237.7	3.0	3.0	100%	2.9	1	3
237.7	240.8	3.1	3.0	97%	3.0	1	3
240.8	243.8	3.0	3.0	100%	1.5	1	3
243.8	246.9	3.1	2.9	94%	2.2	1	3
246.9	249.9	3.0	3.1	103%	3.0	1	3
249.9	253.0	3.1	3.0	97%	2.8	1	3
253.0	256.0	3.0	3.1	103%	3.1	1	3
256.0	259.1	3.1	3.0	97%	2.9	1	3
259.1	262.1	3.0	3.0	100%	2.9	1	3
262.1	265.2	3.1	3.0	97%	2.7	1	3
265.2	268.2	3.0	3.0	100%	2.9	1	3
268.2	271.3	3.1	3.0	97%	3.0	1	3
271.3	274.3	3.0	3.1	103%	2.8	1	3

Kemess Bear 2005 Geotechnical Log

KB-05-10

Northing:	7346	**Total Depth:**	353.8 **m**
Easting:	9623	**Azimuth:**	0.0°
Elevation:	1300	**Dip:**	-90°

Drilled: 5/18/2005

From (m)	To (m)	Run (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Hardness
274.3	277.4	3.1	3.0	97%	2.6	1	3
277.4	280.4	3.0	3.0	100%	2.8	1	3
280.4	283.5	3.1	3.1	100%	2.1	1	3
283.5	286.5	3.0	3.0	100%	2.3	1	3
286.5	289.6	3.1	3.0	97%	1.5	0	3
289.6	292.6	3.0	3.0	100%	2.7	1	3
292.6	295.7	3.1	3.1	100%	2.2	1	3
295.7	298.7	3.0	3.1	103%	2.4	1	3
298.7	301.8	3.1	2.9	94%	2.3	1	3
301.8	304.8	3.0	3.1	103%	1.5	1	3
304.8	307.9	3.1	3.1	100%	2.3	1	3
307.9	310.9	3.0	3.1	103%	2.6	1	3
310.9	313.9	3.0	3.0	100%	2.6	1	3
313.9	317.0	3.1	3.0	97%	2.1	1	3
317.0	320.0	3.0	3.1	103%	2.3	1	3
320.0	323.1	3.1	3.1	100%	2.1	1	3
323.1	326.1	3.0	2.8	93%	1.9	1	3
326.1	329.2	3.1	2.9	94%	2.2	1	3
329.2	332.2	3.0	3.0	100%	1.9	1	3
332.2	335.3	3.1	2.9	94%	2.0	1	3
335.3	338.3	3.0	2.9	97%	2.6	1	3
338.3	341.4	3.1	2.9	94%	2.4	1	3
341.4	344.4	3.0	2.9	97%	2.2	1	3
344.4	347.5	3.1	3.0	97%	2.4	1	3
347.5	350.5	3.0	3.0	100%	2.1	1	3
350.5	353.6	3.1	3.0	97%	1.6	1	3
353.6	356.6	3.0	2.9	97%	2.3	1	3

Kemess Bear 2005 Geotechnical Log

KB-05-11

Northing:	8058	Total Depth:	350.5 m
Easting:	11794	Azimuth:	0.0°
Elevation:	1300	Dip:	-90°

Drilled: 5/22/2005

From (m)	To (m)	Run (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Hardness
0.0	9.1	9.1	0.5	5%	0.0	0	2
9.1	12.1	3.0	0.7	23%	0.0	0	2
12.1	15.2	3.1	0.3	10%	0.0	0	2
15.2	18.3	3.1	0.5	16%	0.0	0	2
18.3	21.3	3.0	0.3	10%	0.0	0	2
21.3	24.2	2.9	0.7	24%	0.0	0	2
24.2	27.4	3.2	0.6	19%	0.2	0	3
27.4	30.5	3.1	3.1	100%	2.1	1	3
30.5	33.5	3.0	3.0	100%	2.4	1	3
33.5	36.6	3.1	3.1	100%	2.6	1	3
36.6	39.6	3.0	3.0	100%	2.4	1	3
39.6	42.7	3.1	3.1	100%	1.7	1	3
42.7	45.7	3.0	3.0	100%	2.4	1	3
45.7	48.8	3.1	3.2	103%	2.4	1	3
48.8	51.8	3.0	3.1	103%	2.5	1	3
51.8	54.9	3.1	3.1	100%	2.2	1	3
54.9	57.9	3.0	3.0	100%	2.7	1	3
57.9	61.0	3.1	3.0	97%	2.4	1	3
61.0	64.0	3.0	3.0	100%	2.1	1	3
64.0	67.1	3.1	2.9	94%	2.3	1	3
67.1	70.1	3.0	3.1	103%	1.5	1	3
70.1	73.2	3.1	3.0	97%	1.6	1	3
73.2	76.2	3.0	3.1	103%	2.4	1	3
76.2	79.3	3.1	2.9	94%	2.2	1	3
79.3	82.3	3.0	2.8	93%	1.9	1	3
82.3	85.3	3.0	3.0	100%	2.4	1	3
85.3	88.4	3.1	3.0	97%	2.3	1	3
88.4	91.4	3.0	3.0	100%	2.6	1	3
91.4	94.5	3.1	3.0	97%	2.6	1	3
94.5	97.5	3.0	3.0	100%	2.5	1	3
97.5	100.6	3.1	3.0	97%	2.5	1	3
100.6	103.6	3.0	2.9	97%	2.5	1	3
103.6	106.7	3.1	2.9	94%	2.7	1	3
106.7	109.7	3.0	3.0	100%	2.6	1	3

Kemess Bear 2005 Geotechnical Log

KB-05-11

Northing: 8058	**Total Depth:** 350.5 **m**
Easting: 11794	**Azimuth:** 0.0°
Elevation: 1300	**Dip:** -90°

Drilled: 5/22/2005

From (m)	To (m)	Run (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Hardness
109.7	112.8	3.1	3.0	97%	2.8	1	3
112.8	115.8	3.0	2.9	97%	2.5	1	3
115.8	118.9	3.1	3.0	97%	2.5	1	3
118.9	121.9	3.0	3.1	103%	2.4	1	3
121.9	125.0	3.1	2.9	94%	1.6	1	3
125.0	128.0	3.0	3.0	100%	1.9	1	3
128.0	131.1	3.1	2.9	94%	2.3	1	3
131.1	134.2	3.1	3.0	97%	2.4	1	3
134.2	137.2	3.0	3.0	100%	2.5	1	3
137.2	140.2	3.0	3.0	100%	1.6	1	3
140.2	143.3	3.1	3.0	97%	1.6	1	3
143.3	146.3	3.0	3.0	100%	2.3	1	3
146.3	149.4	3.1	2.9	94%	2.2	1	3
149.4	152.4	3.0	3.0	100%	2.3	1	3
152.4	155.5	3.1	3.0	97%	2.5	1	3
155.5	158.5	3.0	3.0	100%	2.1	1	3
158.5	161.5	3.0	3.0	100%	2.9	1	3
161.5	164.6	3.1	3.1	100%	2.8	1	3
164.6	167.6	3.0	3.0	100%	2.8	1	3
167.6	170.7	3.1	3.1	100%	2.6	1	3
170.7	173.7	3.0	3.1	103%	2.6	1	3
173.7	176.8	3.1	3.1	100%	2.4	1	3
176.8	179.8	3.0	3.0	100%	2.8	1	3
179.8	182.9	3.1	2.9	94%	1.5	0	3
182.9	185.9	3.0	3.1	103%	1.4	0	3
185.9	189.0	3.1	2.9	94%	1.6	1	3
189.0	192.0	3.0	3.1	103%	2.0	1	3
192.0	195.1	3.1	3.1	100%	2.5	1	3
195.1	198.1	3.0	3.0	100%	2.0	1	3
198.1	201.2	3.1	2.8	90%	2.3	1	2
201.2	204.2	3.0	3.1	103%	2.8	1	3
204.2	207.2	3.0	3.1	103%	2.5	1	3
207.2	210.3	3.1	2.8	90%	1.8	1	3
210.3	213.3	3.0	3.0	100%	2.1	1	3

Kemess Bear 2005 Geotechnical Log

KB-05-11

Northing: 8058		**Total Depth:** 350.5 **m**	
Easting: 11794		**Azimuth:** 0.0°	
Elevation: 1300		**Dip:** -90°	

Drilled: 5/22/2005

From (m)	To (m)	Run (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Hardness
213.3	216.4	3.1	3.1	100%	2.5	1	3
216.4	219.4	3.0	3.1	103%	2.1	1	3
219.4	222.5	3.1	2.9	94%	2.4	1	3
222.5	225.5	3.0	3.2	107%	2.5	1	3
225.5	228.6	3.1	3.0	97%	1.9	1	3
228.6	231.6	3.0	3.0	100%	2.2	1	3
231.6	234.7	3.1	2.9	94%	1.2	0	3
234.7	237.7	3.0	3.1	103%	2.4	1	2
237.7	240.8	3.1	3.0	97%	2.8	1	3
240.8	243.8	3.0	3.1	103%	2.8	1	3
243.8	246.9	3.1	3.1	100%	3.0	1	3
246.9	249.9	3.0	3.1	103%	3.0	1	3
249.9	253.0	3.1	2.8	90%	2.6	1	3
253.0	256.0	3.0	2.6	87%	1.6	1	3
256.0	259.1	3.1	3.1	100%	2.5	1	3
259.1	262.1	3.0	3.1	103%	3.0	1	3
262.1	265.2	3.1	3.1	100%	2.9	1	3
265.2	268.2	3.0	3.1	103%	2.8	1	3
268.2	271.3	3.1	3.1	100%	2.8	1	3
271.3	274.3	3.0	3.1	103%	2.9	1	3
274.3	277.4	3.1	3.1	100%	3.0	1	3
277.4	280.4	3.0	3.1	103%	2.9	1	3
280.4	283.4	3.0	3.0	100%	2.5	1	3
283.4	286.5	3.1	3.0	49%	2.1	0	3
286.5	289.5	3.0	3.1	103%	2.8	1	3
289.5	292.6	3.1	3.0	97%	2.7	1	3
292.6	295.6	3.0	3.0	100%	2.0	1	3
295.6	298.7	3.1	3.0	97%	1.6	1	3
298.7	301.7	3.0	3.0	100%	2.4	1	3
301.7	304.8	3.1	3.1	100%	2.5	1	3
304.8	307.8	3.0	3.0	100%	2.3	1	3
307.8	310.9	3.1	3.1	100%	2.6	1	3
310.9	313.9	3.0	3.0	100%	2.3	1	3
313.9	316.9	3.0	3.0	100%	2.7	1	3

Kemess Bear 2005 Geotechnical Log

KB-05-11

Northing:	8058	**Total Depth:**	350.5 **m**
Easting:	11794	**Azimuth:**	0.0°
Elevation:	1300	**Dip:**	-90°

Drilled: 5/22/2005

From (m)	*To (m)*	*Run (m)*	*Recovery (m)*	*Recovery (%)*	*RQD (m)*	*RQD (%)*	*Hardness*
316.9	320.0	3.1	2.9	94%	2.1	1	3
320.0	323.0	3.0	3.0	100%	1.9	1	3
323.0	326.1	3.1	3.0	97%	2.2	1	3
326.1	329.1	3.0	3.0	100%	2.7	1	3
329.1	332.2	3.1	3.0	97%	2.5	1	3
332.2	335.3	3.1	3.0	97%	2.3	1	3
335.3	338.3	3.0	3.0	100%	2.5	1	3
338.3	341.8	3.5	3.0	86%	2.6	1	3
341.8	344.4	2.6	2.9	112%	2.0	1	3
344.4	347.5	3.1	3.0	97%	2.6	1	3
347.5	350.5	3.0	2.9	97%	2.5	1	3

Kemess Bear 2005 Geotechnical Log

KB-05-12

Northing:	8950	Total Depth:	342 m
Easting:	11321	Azimuth:	0.0°
Elevation:	1300	Dip:	-90°

Drilled: 5/26/2005

From (m)	To (m)	Run (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Hardness
0.0	39.6	39.6	1.4	4%	0.0	0	3
39.6	42.7	3.1	1.6	52%	0.0	0	3
42.7	45.7	3.0	3.1	103%	3.1	1	3
45.7	48.8	3.1	2.8	90%	2.2	1	3
48.8	51.8	3.0	1.5	50%	1.0	0	3
51.8	54.9	3.1	3.0	97%	2.6	1	3
54.9	57.9	3.0	3.0	100%	2.7	1	3
57.9	61.0	3.1	3.0	97%	2.3	1	1
61.0	64.0	3.0	3.0	100%	0.3	0	1
64.0	67.1	3.1	3.0	97%	2.5	1	1
67.1	70.1	3.0	3.0	100%	2.6	1	1
70.1	73.2	3.1	3.0	97%	2.7	1	3
73.2	76.2	3.0	3.0	100%	2.7	1	3
76.2	79.3	3.1	3.0	97%	2.6	1	3
79.3	82.3	3.0	3.0	100%	2.7	1	3
82.3	85.3	3.0	3.0	100%	2.8	1	3
85.3	88.4	3.1	3.0	97%	2.7	1	3
88.4	91.4	3.0	3.0	100%	2.9	1	3
91.4	94.5	3.1	3.0	97%	2.8	1	3
94.5	97.5	3.0	3.0	100%	2.8	1	3
97.5	100.6	3.1	3.1	100%	2.6	1	3
100.6	103.6	3.0	3.0	100%	2.0	1	2
103.6	106.7	3.1	3.0	97%	2.2	1	3
106.7	109.7	3.0	3.0	100%	1.7	1	3
109.7	112.8	3.1	3.0	97%	2.3	1	3
112.8	115.8	3.0	2.9	97%	2.3	1	3
115.8	118.9	3.1	3.1	100%	2.2	1	3
118.9	121.9	3.0	3.0	100%	2.9	1	3
121.9	125.0	3.1	3.8	123%	2.3	1	3
125.0	128.0	3.0	3.0	100%	2.4	1	3
128.0	131.1	3.1	3.0	97%	2.1	1	3
131.1	134.1	3.0	3.1	103%	2.0	1	3
134.1	137.2	3.1	3.0	97%	2.4	1	3
137.2	140.2	3.0	3.1	103%	2.4	1	3

Northgate Minerals Corp.

Kemess Bear 2005 Geotechnical Log

KB-05-12

Northing:	8950	Total Depth:	342 m
Easting:	11321	Azimuth:	0.0°
Elevation:	1300	Dip:	-90°

Drilled: 5/26/2005

From (m)	To (m)	Run (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Hardness
140.2	143.3	3.1	3.1	100%	2.5	1	3
143.3	146.3	3.0	3.1	103%	2.8	1	3
146.3	149.4	3.1	3.1	100%	2.6	1	3
149.4	152.4	3.0	3.1	103%	2.9	1	3
152.4	155.5	3.1	3.1	100%	2.8	1	3
155.5	158.5	3.0	3.1	103%	3.1	1	3
158.5	161.5	3.0	3.1	103%	2.4	1	3
161.5	164.6	3.1	3.1	100%	2.7	1	3
164.6	167.6	3.0	3.0	100%	2.5	1	3
167.6	170.7	3.1	3.0	97%	1.7	1	3
170.7	173.7	3.0	3.0	100%	2.4	1	3
173.7	176.8	3.1	3.0	97%	2.2	1	3
176.8	179.8	3.0	3.1	103%	2.2	1	3
179.8	182.9	3.1	3.1	100%	2.6	1	3
182.9	185.9	3.0	3.1	103%	2.7	1	3
185.9	189.0	3.1	3.0	97%	2.9	1	3
189.0	192.0	3.0	3.0	100%	2.9	1	3
192.0	195.1	3.1	3.0	97%	2.7	1	3
195.1	198.1	3.0	3.1	103%	3.0	1	3
198.1	201.2	3.1	3.0	97%	1.8	1	3
201.2	204.2	3.0	3.0	100%	2.8	1	3
204.2	207.3	3.1	3.0	97%	2.6	1	3
207.3	210.3	3.0	3.0	100%	2.9	1	3
210.3	213.4	3.1	3.0	97%	2.5	1	3
213.4	216.4	3.0	3.0	100%	2.6	1	3
216.4	219.5	3.1	3.0	97%	1.6	1	3
219.5	222.5	3.0	3.1	103%	1.9	1	3
222.5	225.6	3.1	3.1	100%	2.7	1	3
225.6	228.6	3.0	3.0	100%	2.5	1	3
228.6	231.7	3.1	3.0	97%	2.7	1	3
231.7	234.7	3.0	3.1	103%	2.8	1	3
234.7	237.7	3.0	2.7	90%	1.2	0	3
237.7	240.8	3.1	3.0	97%	2.8	1	3
240.8	243.8	3.0	3.0	100%	2.7	1	3

Kemess Bear 2005 Geotechnical Log

KB-05-12

Northing:	8950	**Total Depth:**	342 **m**
Easting:	11321	**Azimuth:**	0.0°
Elevation:	1300	**Dip:**	-90°

Drilled: 5/26/2005

From (m)	To (m)	Run (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Hardness
243.8	246.9	3.1	3.0	97%	2.5	1	3
246.9	249.9	3.0	3.1	103%	2.7	1	3
249.9	253.0	3.1	3.0	97%	2.5	1	3
253.0	256.0	3.0	3.1	103%	2.2	1	3
256.0	259.1	3.1	3.1	100%	2.5	1	3
259.1	262.1	3.0	3.0	100%	2.7	1	3
262.1	265.2	3.1	3.0	97%	2.5	1	3
265.2	268.2	3.0	3.1	103%	2.4	1	3
268.2	271.3	3.1	3.1	100%	2.3	1	3
271.3	274.3	3.0	3.1	103%	2.0	1	3
274.3	277.4	3.1	2.9	94%	2.0	1	3
277.4	280.4	3.0	3.1	103%	2.6	1	3
280.4	283.5	3.1	3.1	100%	2.7	1	3
283.5	286.5	3.0	3.0	100%	1.7	1	3
286.5	289.6	3.1	3.0	97%	2.1	1	3
289.6	292.6	3.0	3.0	100%	2.3	1	3
292.6	295.7	3.1	3.0	97%	2.2	1	3
295.7	298.7	3.0	2.9	97%	0.8	0	3
298.7	301.8	3.1	3.0	97%	1.8	1	3
301.8	304.8	3.0	3.0	100%	1.9	1	3
304.8	307.9	3.1	3.0	97%	0.9	0	3
307.9	310.9	3.0	3.0	100%	1.3	0	3
310.9	313.9	3.0	3.0	100%	1.5	1	3
313.9	317.0	3.1	3.0	97%	2.6	1	3
317.0	320.0	3.0	3.0	100%	2.5	1	3
320.0	323.1	3.1	3.1	100%	2.8	1	0
323.1	326.1	3.0	3.1	103%	2.9	1	0
326.1	329.2	3.1	3.0	97%	2.9	1	0
329.2	332.2	3.0	3.1	103%	3.0	1	0
332.2	335.3	3.1	3.1	100%	2.5	1	0
335.3	338.3	3.0	3.0	100%	1.9	1	0
338.3	341.4	3.1	2.9	94%	2.4	1	0

Kemess Bear 2005 Geotechnical Log

KB-05-13

Northing:	8153.55	**Total Depth:**	368.8 **m**
Easting:	11195.1	**Azimuth:**	180.0°
Elevation:	1300	**Dip:**	-70°

Drilled: 5/28/2005

From (m)	To (m)	Run (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Hardness
0.0	42.7	42.7	3.1	7%	0.6	0	0
42.7	45.7	3.0	3.0	100%	2.0	1	2
45.7	48.8	3.1	3.0	97%	2.2	1	3
48.8	51.8	3.0	3.1	103%	2.6	1	3
51.8	54.9	3.1	3.1	100%	1.9	1	3
54.9	57.9	3.0	3.1	103%	1.9	1	3
57.9	61.0	3.1	3.1	100%	2.4	1	3
61.0	64.0	3.0	3.0	100%	0.8	0	3
64.0	67.1	3.1	3.1	100%	1.9	1	3
67.1	70.1	3.0	3.1	103%	2.6	1	3
70.1	73.2	3.1	3.0	97%	2.0	1	3
73.2	76.2	3.0	3.0	100%	1.5	1	3
76.2	79.3	3.1	3.0	97%	1.9	1	3
79.3	82.3	3.0	3.0	100%	1.6	1	3
82.3	85.3	3.0	3.0	100%	1.8	1	3
85.3	88.4	3.1	3.0	97%	1.7	1	3
88.4	91.4	3.0	3.1	103%	2.5	1	3
91.4	94.5	3.1	2.9	94%	2.7	1	3
94.5	97.5	3.0	3.0	100%	2.6	1	3
97.5	100.6	3.1	3.1	100%	2.6	1	3
100.6	103.6	3.0	3.0	100%	1.9	1	3
103.6	106.7	3.1	2.9	94%	2.4	1	3
106.7	109.7	3.0	3.1	103%	2.2	1	3
109.7	112.8	3.1	3.1	100%	2.2	1	3
112.8	115.8	3.0	3.0	100%	2.5	1	3
115.8	118.9	3.1	3.1	100%	2.7	1	3
118.9	121.9	3.0	2.9	97%	2.3	1	3
121.9	125.0	3.1	3.0	97%	2.1	1	3
125.0	128.0	3.0	3.0	100%	2.5	1	3
128.0	131.0	3.0	3.1	103%	2.3	1	3
131.0	134.1	3.1	2.9	94%	2.3	1	3
134.1	137.1	3.0	3.0	100%	1.6	1	3
137.1	140.2	3.1	3.0	97%	2.1	1	3
140.2	143.2	3.0	3.0	100%	2.7	1	3

Kemess Bear 2005 Geotechnical Log

KB-05-13

Northing: 8153.55	**Total Depth:** 368.8 **m**		
Easting: 11195.1	**Azimuth:** 180.0°		
Elevation: 1300	**Dip:** -70°		

Drilled: 5/28/2005

From (m)	To (m)	Run (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Hardness
143.2	146.3	3.1	3.1	100%	2.7	1	3
146.3	149.4	3.1	2.9	94%	2.7	1	3
149.4	152.4	3.0	2.9	97%	2.6	1	3
152.4	155.5	3.1	3.0	97%	2.7	1	3
155.5	158.5	3.0	3.0	100%	2.5	1	3
158.5	161.5	3.0	3.0	100%	2.3	1	3
161.5	164.6	3.1	3.1	100%	2.4	1	3
164.6	167.6	3.0	3.0	100%	2.5	1	3
167.6	170.7	3.1	3.1	100%	2.7	1	3
170.7	173.7	3.0	3.0	100%	2.7	1	3
173.7	176.8	3.1	3.0	97%	2.4	1	3
176.8	179.8	3.0	3.0	100%	2.3	1	3
179.8	182.9	3.1	2.9	94%	1.9	1	3
182.9	185.9	3.0	3.0	100%	2.7	1	3
185.9	189.0	3.1	3.0	97%	2.3	1	3
189.0	192.0	3.0	2.9	97%	1.1	0	2
192.0	195.1	3.1	2.9	94%	1.8	1	3
195.1	198.1	3.0	3.1	103%	2.6	1	3
198.1	201.2	3.1	3.0	97%	2.8	1	3
201.2	204.2	3.0	2.9	97%	2.6	1	3
204.2	207.3	3.1	3.1	100%	3.0	1	3
207.3	210.3	3.0	3.0	100%	2.1	1	3
210.3	213.4	3.1	2.9	94%	0.6	0	3
213.4	216.4	3.0	2.9	97%	1.9	1	3
216.4	219.5	3.1	3.0	97%	2.3	1	3
219.5	222.5	3.0	3.0	100%	2.2	1	3
222.5	225.6	3.1	2.9	94%	1.6	1	3
225.6	228.6	3.0	2.8	93%	1.7	1	3
228.6	231.7	3.1	3.1	100%	2.1	1	3
231.7	234.7	3.0	3.1	103%	2.0	1	3
234.7	237.8	3.1	3.1	100%	1.7	1	3
237.8	240.8	3.0	3.1	103%	2.2	1	3
240.8	243.8	3.0	2.9	97%	2.1	1	3
243.8	246.9	3.1	3.1	100%	1.6	1	3

Kemess Bear 2005 Geotechnical Log

KB-05-13

Northing: 8153.55	**Total Depth:** 368.8 **m**		
Easting: 11195.1	**Azimuth:** 180.0°		
Elevation: 1300	**Dip:** -70°		

Drilled: 5/28/2005

From (m)	To (m)	Run (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Hardness
246.9	249.9	3.0	3.1	103%	3.0	1	3
249.9	253.0	3.1	3.0	97%	2.5	1	3
253.0	256.0	3.0	3.0	100%	1.6	1	3
256.0	259.1	3.1	3.0	97%	1.7	1	3
259.1	262.1	3.0	2.9	97%	2.1	1	3
262.1	265.2	3.1	3.0	97%	1.1	0	3
265.2	268.2	3.0	3.0	100%	1.9	1	3
268.2	271.3	3.1	3.1	100%	2.2	1	3
271.3	274.3	3.0	2.7	90%	1.9	1	3
274.3	277.4	3.1	3.0	97%	2.3	1	3
277.4	280.4	3.0	2.9	97%	2.1	1	3
280.4	283.5	3.1	3.0	97%	1.8	1	3
283.5	286.5	3.0	3.1	103%	1.9	1	3
286.5	289.6	3.1	3.0	97%	1.9	1	3
289.6	292.6	3.0	3.0	100%	2.1	1	3
292.6	295.7	3.1	2.8	90%	1.7	1	3
295.7	298.7	3.0	3.0	100%	2.0	1	3
298.7	301.8	3.1	2.9	94%	1.3	0	3
301.8	304.8	3.0	3.0	100%	2.0	1	3
304.8	307.9	3.1	3.0	97%	2.0	1	3
307.9	310.9	3.0	2.9	97%	1.1	0	3
310.9	313.9	3.0	3.0	100%	2.0	1	3
313.9	317.0	3.1	2.8	90%	1.1	0	3
317.0	320.0	3.0	3.0	100%	1.3	0	3
320.0	323.1	3.1	2.9	88%	1.9	1	3
323.1	326.1	3.0	3.1	103%	0.9	0	3
323.1	329.2	6.1	3.0	49%	1.5	0	3
329.2	332.2	3.0	2.9	97%	1.8	1	3
332.2	335.3	3.1	2.9	94%	1.9	1	3
335.3	338.3	3.0	3.1	103%	1.7	1	3
338.3	341.4	3.1	3.1	100%	2.0	1	3
341.4	344.4	3.0	3.0	100%	2.0	1	3
344.4	347.5	3.1	3.0	97%	2.1	1	3
347.5	350.5	3.0	3.0	100%	2.5	1	3

Kemess Bear 2005 Geotechnical Log

KB-05-13

Northing:	8153.55	**Total Depth:**	368.8 **m**
Easting:	11195.1	**Azimuth:**	180.0°
Elevation:	1300	**Dip:**	-70°

Drilled: 5/28/2005

From (m)	To (m)	Run (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Hardness
350.5	353.6	3.1	2.9	94%	1.7	1	3
353.6	356.6	3.0	3.1	103%	1.8	1	3
356.6	359.7	3.1	2.9	94%	1.6	1	3
359.7	362.7	3.0	3.0	100%	1.6	1	3
362.7	365.8	3.1	3.0	97%	1.6	1	3
365.8	368.8	3.0	2.8	93%	2.2	1	3

Kemess Bear 2005 Geotechnical Log

KB-05-14

Northing:	7754.98	Total Depth:	396.2 m
Easting:	11203.1	Azimuth:	186.0°
Elevation:	1292	Dip:	-60°

Drilled: 5/31/2005

From (m)	To (m)	Run (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Hardness
0.0	9.1	9.1	1.2	13%	0.1	0	0
9.1	12.2	3.1	1.3	42%	0.1	0	0
12.2	15.2	3.0	0.3	8%	0.0	0	0
15.2	18.3	3.1	1.0	32%	0.0	0	0
18.3	21.3	3.0	1.0	33%	0.0	0	0
21.3	24.4	3.1	0.8	26%	0.0	0	0
24.4	27.4	3.0	0.8	27%	0.0	0	0
27.4	30.5	3.1	3.1	100%	0.0	0	0
30.5	33.5	3.0	1.2	40%	0.0	0	0
33.5	36.6	3.1	1.2	39%	0.0	0	0
36.6	39.6	3.0	1.6	53%	0.0	0	0
39.6	42.7	3.1	1.7	55%	0.1	0	0
42.7	45.7	3.0	2.4	80%	0.9	0	2
45.7	48.8	3.1	2.9	94%	1.5	0	3
48.8	51.8	3.0	3.1	103%	1.7	1	3
51.8	54.9	3.1	2.9	94%	2.2	1	3
54.9	57.9	3.0	2.9	97%	2.1	1	3
57.9	61.0	3.1	3.1	100%	1.9	1	3
61.0	64.0	3.0	3.1	103%	2.2	1	3
64.0	67.1	3.1	3.1	100%	2.1	1	3
67.1	70.1	3.0	3.1	103%	2.3	1	3
70.1	73.2	3.1	3.1	100%	2.3	1	3
73.2	76.2	3.0	3.1	103%	2.3	1	3
76.2	79.3	3.1	3.1	100%	2.4	1	3
79.3	82.3	3.0	3.1	103%	1.8	1	3
82.3	85.3	3.0	3.0	100%	1.9	1	3
85.3	88.4	3.1	3.0	97%	1.9	1	3
88.4	91.4	3.0	3.0	100%	2.1	1	3
91.4	94.5	3.1	3.0	97%	2.5	1	3
94.5	97.5	3.0	3.1	103%	2.5	1	3
97.5	100.6	3.1	3.0	97%	1.9	1	3
100.6	103.6	3.0	3.0	100%	1.5	1	3
103.6	106.7	3.1	3.1	100%	1.9	1	3
106.7	109.7	3.0	3.1	103%	2.0	1	3

Kemess Bear 2005 Geotechnical Log

KB-05-14

Northing: 7754.98	**Total Depth:** 396.2 **m**		
Easting: 11203.1	**Azimuth:** 186.0°		
Elevation: 1292	**Dip:** -60°		

Drilled: 5/31/2005

From (m)	To (m)	Run (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Hardness
109.7	112.8	3.1	3.1	100%	2.5	1	3
112.8	115.8	3.0	3.0	100%	1.5	1	3
115.8	118.9	3.1	3.1	100%	1.9	1	3
118.9	121.9	3.0	3.0	100%	2.5	1	3
121.9	125.0	3.1	2.9	94%	2.3	1	3
125.0	128.0	3.0	3.1	103%	2.1	1	3
128.0	131.1	3.1	3.1	100%	1.9	1	3
131.1	134.1	3.0	1.9	63%	0.8	0	3
134.1	137.2	3.1	3.0	97%	2.2	1	3
137.2	140.2	3.0	3.1	103%	2.0	1	3
140.2	143.3	3.1	3.1	100%	2.3	1	3
143.3	146.3	3.0	3.0	100%	1.9	1	3
146.3	149.4	3.1	3.1	100%	2.3	1	3
149.4	152.4	3.0	3.1	103%	2.3	1	3
152.4	155.5	3.1	3.1	100%	1.9	1	3
155.5	158.5	3.0	3.1	103%	1.6	1	3
158.5	161.5	3.0	3.1	103%	2.4	1	3
161.5	164.6	3.1	2.8	90%	2.0	1	2
164.6	167.6	3.0	3.0	100%	1.6	1	2
167.6	170.7	3.1	3.0	97%	1.6	1	2
170.7	173.7	3.0	3.0	100%	2.7	1	3
173.7	176.8	3.1	3.0	97%	2.1	1	3
176.8	179.8	3.0	3.0	100%	2.0	1	3
179.8	182.9	3.1	3.0	97%	2.1	1	3
182.9	185.9	3.0	3.0	100%	1.5	1	3
185.9	189.0	3.1	2.9	94%	2.1	1	3
189.0	192.0	3.0	3.1	103%	2.5	1	3
192.0	195.1	3.1	3.1	100%	2.1	1	3
195.1	198.1	3.0	3.1	103%	2.0	1	3
198.1	201.2	3.1	2.9	94%	2.5	1	3
201.2	204.2	3.0	2.9	97%	2.3	1	3
204.2	207.3	3.1	3.1	100%	2.2	1	3
207.3	210.3	3.0	3.0	100%	2.0	1	3
210.3	213.4	3.1	2.8	90%	1.9	1	3

Kemess Bear 2005 Geotechnical Log

KB-05-14

Northing:	7754.98	**Total Depth:**	396.2 **m**
Easting:	11203.1	**Azimuth:**	186.0°
Elevation:	1292	**Dip:**	-60°

Drilled: 5/31/2005

From (m)	To (m)	Run (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Hardness
213.4	216.4	3.0	3.1	103%	1.1	0	3
216.4	219.5	3.1	3.1	100%	2.4	1	3
219.5	222.5	3.0	3.0	100%	1.0	0	3
222.5	225.6	3.1	2.9	94%	1.7	1	3
225.6	228.6	3.0	3.0	100%	1.6	1	3
228.6	231.7	3.1	3.1	100%	3.0	1	3
231.7	234.7	3.0	3.0	100%	2.0	1	3
234.7	237.7	3.0	3.0	100%	2.6	1	3
237.7	240.8	3.1	2.9	94%	2.4	1	3
240.8	243.8	3.0	3.1	103%	2.2	1	3
243.8	246.9	3.1	3.0	97%	2.3	1	3
246.9	249.9	3.0	3.0	100%	2.4	1	3
249.9	253.0	3.1	3.1	100%	2.6	1	3
253.0	256.0	3.0	2.9	97%	2.3	1	3
256.0	259.1	3.1	2.9	85%	2.1	1	3
259.1	262.1	3.0	3.1	115%	1.9	1	3
262.1	265.2	3.1	3.1	100%	1.9	1	3
265.2	268.2	3.0	3.1	103%	1.9	1	3
268.2	271.3	3.1	3.1	100%	1.3	0	3
271.3	274.3	3.0	3.1	103%	2.0	1	3
274.3	277.4	3.1	3.1	100%	2.2	1	3
277.4	280.4	3.0	3.1	103%	2.5	1	3
280.4	283.5	3.1	3.1	100%	2.3	1	3
283.5	286.5	3.0	3.1	103%	2.9	1	3
286.5	289.6	3.1	3.0	97%	2.5	1	3
289.6	292.6	3.0	3.1	103%	2.6	1	3
292.6	295.7	3.1	3.0	97%	2.6	1	3
295.7	298.7	3.0	3.0	100%	2.5	1	3
298.7	301.8	3.1	3.1	100%	2.9	1	3
301.8	304.8	3.0	3.1	103%	2.8	1	3
304.8	307.9	3.1	3.0	97%	2.5	1	3
307.9	310.9	3.0	3.1	103%	2.8	1	3
310.9	313.9	3.0	3.1	103%	2.2	1	3
313.9	317.0	3.1	3.1	100%	2.0	1	3

Kemess Bear 2005 Geotechnical Log

KB-05-14

Northing: 7754.98	**Total Depth:** 396.2 **m**		
Easting: 11203.1	**Azimuth:** 186.0°		
Elevation: 1292	**Dip:** -60°		

Drilled: 5/31/2005

From (m)	To (m)	Run (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Hardness
317.0	320.0	3.0	3.1	103%	2.8	1	3
320.0	323.1	3.1	2.9	94%	2.4	1	3
323.1	326.1	3.0	3.0	100%	2.5	1	3
326.1	329.2	3.1	3.1	100%	2.8	1	3
329.2	332.2	3.0	3.0	100%	2.3	1	3
332.2	335.3	3.1	3.0	97%	1.8	1	3
335.3	338.3	3.0	3.1	103%	1.9	1	3
338.3	341.4	3.1	3.0	97%	1.5	0	3
341.4	344.4	3.0	3.0	100%	2.0	1	3
344.4	347.5	3.1	3.0	97%	1.3	0	3
347.5	350.5	3.0	3.0	100%	1.4	0	3
350.5	353.6	3.1	3.0	97%	0.7	0	3
353.6	356.6	3.0	2.9	97%	0.8	0	3
356.6	359.7	3.1	3.0	97%	0.5	0	3
359.7	362.7	3.0	3.0	100%	1.3	0	3
362.7	365.8	3.1	3.0	97%	1.8	1	3
365.8	368.8	3.0	3.0	100%	1.1	0	3
368.8	371.9	3.1	2.9	94%	1.1	0	3
371.9	374.9	3.0	3.1	103%	1.1	0	3
374.9	378.0	3.1	2.9	94%	1.0	0	3
378.0	381.0	3.0	3.0	100%	1.2	0	3
381.0	384.1	3.1	3.1	100%	1.2	0	3
384.1	387.1	3.0	2.8	93%	1.9	1	3
387.1	390.1	3.0	3.1	103%	2.7	1	3
390.1	393.2	3.1	3.0	97%	2.5	1	3
393.2	396.2	3.0	3.1	103%	2.2	1	3

Kemess Bear 2005 Geotechnical Log

KB-05-15

Northing: 7717.71		**Total Depth:**	359.7 **m**
Easting: 12220.6		**Azimuth:**	186.0°
Elevation: 1303		**Dip:**	-70°

Drilled: 6/3/2005

From (m)	To (m)	Run (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Hardness
0.0	12.2	12.2	0.6	5%	0.0	0	3
12.2	15.2	3.0	1.6	53%	0.3	0	3
15.2	18.3	3.1	2.5	81%	1.0	0	3
18.3	21.3	3.0	2.6	84%	1.3	0	3
21.3	24.4	3.0	2.8	92%	1.5	0	3
24.4	27.4	3.0	2.8	91%	1.3	0	3
27.4	30.5	3.1	2.9	94%	2.1	1	3
30.5	33.5	3.0	2.6	86%	1.7	1	3
33.5	36.6	3.1	2.4	78%	1.0	0	3
36.6	39.6	3.0	2.6	85%	0.8	0	3
39.6	42.7	3.1	2.9	94%	2.0	1	3
42.7	45.7	3.1	2.9	95%	2.4	1	3
45.7	48.8	3.1	3.0	98%	2.4	1	3
48.8	51.8	3.1	3.0	98%	2.6	1	3
51.8	54.8	3.0	3.0	98%	2.4	1	3
54.8	57.9	3.1	3.1	101%	2.5	1	3
57.9	61.0	3.1	3.1	102%	2.8	1	3
61.0	64.0	3.1	3.0	97%	2.0	1	3
64.0	67.1	3.1	3.0	98%	1.8	1	3
67.1	70.1	3.0	2.9	96%	1.9	1	3
70.1	73.2	3.1	3.0	98%	1.9	1	3
73.2	76.2	3.1	3.1	100%	2.1	1	3
76.2	79.3	3.1	3.1	100%	2.2	1	3
79.3	82.3	3.1	3.1	102%	2.4	1	3
82.3	85.3	3.0	3.0	99%	1.9	1	3
85.3	88.4	3.1	3.1	101%	1.9	1	3
88.4	91.4	3.1	3.0	99%	2.8	1	3
91.4	94.5	3.1	3.1	100%	2.8	1	3
94.5	97.5	3.1	3.1	102%	2.7	1	3
97.5	100.6	3.0	3.0	99%	2.7	1	3
100.6	103.6	3.1	3.1	102%	2.8	1	3
103.6	106.7	3.1	3.1	100%	2.9	1	3
106.7	109.7	3.1	3.0	98%	2.8	1	3
109.7	112.8	3.1	3.1	102%	2.8	1	3

Kemess Bear 2005 Geotechnical Log

KB-05-15

Northing: 7717.71	**Total Depth:** 359.7 **m**		
Easting: 12220.6	**Azimuth:** 186.0°		
Elevation: 1303	**Dip:** -70°		

Drilled: 6/3/2005

From (m)	To (m)	Run (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Hardness
112.8	115.8	3.0	3.1	100%	2.4	1	3
115.8	118.9	3.1	3.0	99%	2.5	1	3
118.9	122.0	3.1	3.0	96%	2.4	1	3
122.0	125.0	3.0	3.1	105%	2.0	1	3
125.0	128.0	3.0	3.1	102%	2.6	1	3
128.0	131.1	3.1	3.1	100%	2.9	1	3
131.1	134.1	3.0	3.1	101%	2.6	1	3
134.1	137.2	3.1	3.0	98%	2.3	1	3
137.2	140.2	3.0	3.1	104%	2.9	1	3
140.2	143.3	3.1	3.1	99%	2.9	1	3
143.3	146.3	3.0	3.1	104%	2.7	1	3
146.3	149.4	3.1	3.1	99%	2.9	1	3
149.4	152.4	3.0	3.1	102%	2.6	1	3
152.4	155.5	3.1	3.1	99%	2.7	1	3
155.5	158.5	3.0	3.1	102%	2.4	1	3
158.5	161.5	3.0	3.1	103%	2.5	1	3
161.5	164.6	3.1	3.0	96%	2.6	1	3
164.6	167.6	3.0	3.0	101%	2.8	1	3
167.6	170.7	3.1	3.1	91%	2.7	1	3
170.7	173.7	3.0	3.1	113%	1.6	1	3
173.7	176.8	3.1	3.0	98%	3.0	1	3
176.8	179.8	3.0	3.1	102%	2.4	1	3
179.8	182.9	3.1	3.1	99%	2.2	1	3
182.9	185.9	3.0	3.2	105%	2.7	1	3
185.9	189.0	3.1	3.1	99%	2.5	1	3
189.0	192.0	3.0	3.2	107%	1.8	1	3
192.0	195.1	3.1	2.8	91%	0.4	0	3
195.1	198.1	3.0	3.2	105%	2.5	1	3
198.1	201.2	3.1	3.1	90%	2.6	1	3
201.2	204.2	3.0	3.0	112%	2.4	1	3
204.2	207.2	3.0	3.1	102%	1.7	1	3
207.2	210.3	3.1	3.0	96%	2.2	1	3
210.3	213.3	3.0	3.0	100%	1.8	1	3
213.3	216.4	3.1	2.8	90%	0.7	0	3

Kemess Bear 2005 Geotechnical Log

KB-05-15

Northing: 7717.71	**Total Depth:** 359.7 **m**		
Easting: 12220.6	**Azimuth:** 186.0°		
Elevation: 1303	**Dip:** -70°		

Drilled: 6/3/2005

From (m)	To (m)	Run (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Hardness
216.4	219.5	3.1	2.9	97%	1.6	1	3
219.5	222.5	3.0	3.1	100%	2.5	1	3
222.5	225.6	3.1	3.0	107%	2.3	1	3
225.6	228.6	3.0	3.0	99%	2.6	1	3
228.6	231.7	3.1	2.6	84%	1.4	0	3
231.7	234.7	3.0	2.7	90%	0.4	0	3
234.7	237.7	3.0	2.9	97%	1.8	1	3
237.7	240.8	3.1	3.0	96%	1.9	1	3
240.8	243.8	3.0	3.0	99%	2.9	1	3
243.8	246.9	3.1	3.0	95%	2.9	1	3
246.9	249.9	3.0	3.0	101%	2.6	1	3
249.9	253.0	3.1	3.0	95%	2.6	1	3
253.0	256.0	3.0	3.0	100%	2.7	1	3
256.0	259.1	3.1	2.8	89%	2.3	1	3
259.1	262.1	3.0	3.1	103%	2.6	1	3
262.1	265.2	3.1	2.9	95%	1.9	1	3
265.2	268.2	3.0	2.8	94%	2.4	1	3
268.2	271.3	3.1	3.1	99%	2.3	1	3
271.3	274.3	3.0	3.1	102%	2.8	1	3
274.3	277.4	3.1	3.1	100%	2.8	1	3
277.4	280.4	3.0	2.8	93%	2.1	1	3
280.4	283.5	3.1	2.9	92%	2.1	1	3
283.5	286.5	3.0	3.0	101%	2.3	1	3
286.5	289.6	3.1	3.0	96%	2.7	1	3
289.6	292.6	3.0	3.1	102%	2.7	1	3
292.6	295.7	3.1	3.0	96%	2.6	1	3
295.7	298.7	3.0	2.9	97%	2.2	1	3
298.7	301.8	3.1	3.1	100%	3.1	1	3
301.8	304.8	3.0	2.7	89%	2.2	1	3
304.8	307.9	3.1	3.0	97%	2.2	1	3
307.9	310.9	3.0	2.9	98%	1.8	1	3
310.9	313.9	3.0	3.1	101%	2.8	1	3
313.9	317.0	3.1	3.0	99%	3.0	1	3
317.0	320.0	3.1	3.0	99%	2.9	1	3

Kemess Bear 2005 Geotechnical Log

KB-05-15

Northing:	7717.71	**Total Depth:**	359.7 **m**
Easting:	12220.6	**Azimuth:**	186.0°
Elevation:	1303	**Dip:**	-70°

Drilled: 6/3/2005

From (m)	To (m)	Run (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Hardness
320.0	323.1	3.0	3.0	97%	2.9	1	3
323.1	326.1	3.1	3.0	99%	3.0	1	3
326.1	329.2	3.0	3.0	100%	3.0	1	3
329.2	332.2	3.1	3.1	102%	2.9	1	3
332.2	335.3	3.0	3.0	98%	2.7	1	3
335.3	338.3	3.1	2.9	94%	2.9	1	3
338.3	341.4	3.1	2.9	96%	2.4	1	3
341.4	344.4	3.0	2.9	96%	2.8	1	3
344.4	347.5	3.1	3.0	97%	3.0	1	3
347.5	350.5	3.0	3.1	102%	2.8	1	3
350.5	353.6	3.1	3.0	97%	2.6	1	3
353.6	356.6	3.1	2.9	96%	2.3	1	3
356.6	359.7	3.0	3.1	102%	2.9	1	3

Kemess Bear 2005 Geotechnical Log

KB-05-16

Northing: 7321.18	**Total Depth:** 378 **m**
Easting: 12656	**Azimuth:** 180.0°
Elevation: 1345	**Dip:** -88°

Drilled: 6/6/2005

From (m)	To (m)	Run (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Hardness
9.1	12.2	3.1	0.3	11%	0.0	0	3
12.2	15.2	3.0	0.3	8%	0.0	0	3
15.2	18.3	3.1	0.2	7%	0.0	0	3
18.3	21.3	3.0	1.1	37%	0.0	0	3
21.3	24.4	3.1	2.5	81%	0.7	0	3
24.4	27.4	3.0	2.2	73%	0.4	0	3
27.4	30.5	3.1	2.8	90%	2.1	1	3
30.5	33.5	3.0	2.6	88%	1.4	0	3
33.5	36.6	3.1	2.5	81%	1.0	0	3
36.6	39.6	3.0	1.8	60%	0.7	0	3
39.6	42.7	3.1	2.2	71%	0.6	0	3
42.7	45.7	3.0	2.6	87%	1.6	1	3
45.7	48.8	3.1	2.7	87%	1.6	1	3
48.8	51.8	3.0	3.0	99%	0.9	0	3
51.8	54.9	3.1	2.2	71%	0.8	0	3
54.9	57.9	3.0	3.0	99%	1.9	1	3
57.9	61.0	3.1	2.5	79%	0.9	0	3
61.0	64.0	3.0	3.1	102%	1.4	0	3
64.0	67.1	3.1	2.8	89%	1.3	0	3
67.1	70.1	3.0	2.9	97%	1.9	1	3
70.1	73.2	3.1	3.0	97%	1.5	0	3
73.2	76.2	3.0	2.9	95%	1.7	1	3
76.2	79.2	3.0	3.0	99%	2.6	1	3
79.2	82.3	3.1	2.9	95%	2.5	1	3
82.3	85.3	3.0	2.9	97%	2.1	1	3
85.3	88.4	3.1	2.9	93%	2.6	1	3
88.4	91.4	3.0	2.8	94%	2.9	1	3
91.4	94.5	3.1	2.9	93%	1.7	1	3
94.5	97.5	3.0	2.8	93%	2.3	1	3
97.5	100.6	3.1	2.9	94%	1.9	1	3
100.6	103.6	3.0	2.7	91%	1.4	0	3
103.6	106.7	3.1	2.9	92%	1.1	0	3
106.7	109.7	3.0	2.9	97%	1.2	0	3
109.7	112.8	3.1	3.0	97%	1.7	1	3

Kemess Bear 2005 Geotechnical Log

KB-05-16

Northing: 7321.18		**Total Depth:**	378 **m**
Easting:	12656	**Azimuth:**	180.0°
Elevation:	1345	**Dip:**	-88°

Drilled: 6/6/2005

From (m)	To (m)	Run (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Hardness
112.8	115.8	3.0	3.0	99%	2.0	1	3
115.8	118.9	3.1	2.8	91%	2.1	1	3
118.9	121.9	3.0	3.0	100%	1.7	1	3
121.9	125.0	3.1	3.0	97%	2.1	1	3
125.0	128.0	3.0	3.1	103%	2.6	1	3
128.0	131.1	3.1	3.1	99%	2.5	1	3
292.6	295.7	3.1	3.0	95%	2.4	1	3
295.7	298.7	3.0	3.1	102%	2.5	1	3
298.7	301.8	3.1	3.1	99%	3.1	1	3
301.8	304.8	3.0	2.9	98%	2.9	1	3
304.8	307.8	3.0	3.1	103%	2.6	1	3
307.8	310.9	3.1	3.1	100%	2.2	1	3
310.9	313.9	3.0	3.0	101%	2.3	1	3
313.9	317.0	3.1	3.0	97%	2.5	1	3
317.0	320.0	3.0	3.0	98%	2.4	1	3
320.0	323.1	3.1	3.0	96%	2.6	1	3
323.1	326.1	3.0	3.1	102%	1.6	1	3
326.1	329.2	3.1	3.0	98%	2.4	1	3
329.2	332.2	3.0	2.7	90%	1.8	1	3
332.2	335.3	3.1	3.0	97%	2.0	1	3
335.3	338.3	3.0	2.9	95%	2.1	1	3
338.3	341.4	3.1	2.8	92%	1.2	0	3
341.4	344.4	3.0	3.0	98%	2.7	1	3
344.4	347.5	3.1	2.9	94%	2.4	1	3
347.5	350.5	3.0	3.0	100%	2.5	1	3
350.5	353.6	3.1	3.1	99%	2.3	1	3
353.6	356.6	3.0	3.0	99%	2.0	1	3
356.6	359.7	3.1	3.0	96%	2.0	1	3
359.7	362.7	3.0	3.0	101%	1.4	0	3
362.7	365.8	3.1	3.0	97%	1.9	1	3
365.8	368.8	3.0	2.5	83%	1.0	0	3
368.8	371.9	3.1	3.0	95%	2.1	1	3
371.9	374.9	3.0	3.0	100%	1.6	1	3
374.9	376.4	1.5	1.5	100%	1.0	1	3

Northgate Minerals Corp.

Kemess Bear 2005 Geotechnical Log

KB-05-17

Northing:	5841	**Total Depth:**	384 **m**
Easting:	9218	**Azimuth:**	0.0°
Elevation:	1300	**Dip:**	-90°

Drilled: 6/11/2005

From (m)	To (m)	Run (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Hardness
0.0	0.0						2
0.0	374.9	3.0	3.1	102%	2.7	1	3
216.4	219.5	3.1	2.9	92%	1.9	1	2
219.5	222.5	3.0	3.1	104%	2.1	1	2
222.5	225.6	3.1	2.9	94%	2.2	1	2
225.6	228.6	3.0	2.9	96%	2.3	1	2
228.6	231.6	3.0	2.9	98%	2.0	1	2
231.6	234.7	3.1	3.1	100%	2.2	1	2
234.7	237.7	3.0	3.0	98%	2.2	1	2
237.7	240.8	3.1	3.0	98%	1.9	1	2
240.8	243.8	3.0	3.0	101%	2.4	1	2
243.8	246.9	3.1	3.0	97%	2.4	1	3
246.9	249.9	3.0	3.1	102%	2.5	1	3
249.9	253.0	3.1	2.8	89%	2.0	1	3
253.0	256.0	3.0	3.1	102%	1.6	1	3
256.0	259.1	3.1	2.8	91%	1.2	0	3
259.1	262.1	3.0	3.1	104%	2.4	1	3
262.1	265.2	3.1	3.1	99%	1.9	1	3
265.2	268.2	3.0	3.0	101%	1.4	0	3
268.2	271.3	3.1	2.8	91%	1.7	1	3
271.3	274.3	3.0	2.8	93%	1.1	0	3
274.3	277.4	3.1	2.9	95%	1.8	1	3
277.4	280.4	3.0	2.8	92%	1.7	1	3
280.4	283.5	3.1	3.1	101%	2.3	1	3
283.5	286.5	3.0	3.0	101%	2.0	1	3
286.5	289.6	3.1	3.1	100%	2.5	1	3
289.6	292.6	3.0	2.9	97%	2.5	1	3
292.6	295.7	3.1	3.1	99%	2.6	1	3
295.7	298.7	3.0	2.9	97%	2.0	1	3
298.7	301.8	3.1	3.1	100%	2.7	1	3
301.8	304.8	3.0	2.9	98%	2.0	1	3
304.8	307.8	3.0	3.0	101%	2.2	1	3
307.8	310.9	3.1	2.9	94%	1.6	1	3
310.9	313.9	3.0	3.0	101%	1.4	0	3

Kemess Bear 2005 Geotechnical Log

KB-05-17

Northing:	5841	**Total Depth:**	384 **m**
Easting:	9218	**Azimuth:**	0.0°
Elevation:	1300	**Dip:**	-90°

Drilled: 6/11/2005

From (m)	To (m)	Run (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Hardness
313.9	317.0	3.1	2.8	91%	1.8	1	3
317.0	320.0	3.0	3.0	99%	2.1	1	3
320.0	323.1	3.1	3.0	97%	2.0	1	3
323.1	326.1	3.0	3.1	104%	1.2	0	3
326.1	329.2	3.1	3.1	99%	2.3	1	3
329.2	332.2	3.0	3.0	101%	2.2	1	3
332.2	335.3	3.1	3.1	100%	1.9	1	3
335.3	338.3	3.0	2.8	93%	2.1	1	3
338.3	341.4	3.1	2.8	90%	2.2	1	3
341.4	344.4	3.0	2.8	95%	1.8	1	3
344.4	347.5	3.1	2.8	91%	1.9	1	3
347.5	350.5	3.0	2.4	80%	1.0	0	3
350.5	353.6	3.1	1.8	57%	0.1	0	3
353.6	356.6	3.0	2.8	93%	1.7	1	3
356.6	359.7	3.1	2.8	89%	1.7	1	3
359.7	362.7	3.0	2.9	97%	2.4	1	3
362.7	365.8	3.1	2.7	86%	2.1	1	3
365.8	368.8	3.0	2.9	97%	2.0	1	3
368.8	371.9	3.1	2.9	95%	2.2	1	3
374.9	378.0	3.1	3.0	97%	2.4	1	3
378.0	381.0	3.0	3.0	100%	2.6	1	3
381.0	384.0	3.0	3.0	98%	2.4	1	3

Kemess Property

2005 Drilling Program

Sample Preparation and Analytical Quality Assurance Report

Northgate Minerals Corp.

March 8, 2006
by Ron Konst

Table of Contents

1 Program Overview

The Kemess Property 2005 Sample Preparation and Analytical Quality Assurance program follows protocols established for the Kemess North 2002 drilling program. The objective of this program is to provide sound and accurate gold and copper analytical results for use in resource/reserve estimates of Kemess Property deposits and for evaluation of other target areas on the property being investigated by Northgate Minerals Corporation. This objective was achieved through the implementation of quality control procedures that include the insertion on blanks, standards, and duplicates into the sample stream and then monitoring and evaluating the quality control analytical results.

An on-site sample preparation laboratory was established to complete the primary crushing (80 % minus 10-mesh) of cut or split diamond drill core. Samples ranged from 30 cm up to 2 m for NQ and 1.5 m for HQ. Operation of the sample preparation laboratory and the quality control procedures were implemented under the supervision of Bill Smith, Chief Assayer at Kemess Mine.

Diamond drill core sample submitted during the 2005 program were collected from over 16 kilometres of core drilled in 41 holes from various target areas on the Kemess Property. A total of 6,188 prepared samples, weighing approximately 250 grams, were submitted to ALS Chemex's Vancouver laboratory during the 2005 program. Quality control samples (blanks, duplicates, and standards) were inserted into the sample stream at regular intervals such that 1 in 26 samples were submitted for quality control purposes. A total of 247 quality control samples were submitted during the 2005 program. This amounted to 4.0 % of the entire population of samples submitted to ALS Chemex. QAQC information was recorded by geologists, core samplers, and by sample preparation staff. This triple-redundancy data capture was used to help identify and eliminate data entry errors.

At ALS Chemex samples were pulverized to better than 85 % minus 150-mesh (-75 microns) and submitted for 34 element analysis, by aqua-regia acid digestion and ICP-AES. This process quantitatively dissolves base metals for the majority of geological materials. Major rock forming elements and more resistive metals are only partially dissolved. Copper assay was done by triple acid digestion, HCl - HNO3 - HBr, 2 gram, digestion in Teflon beakers, with an atomic absorption finish. Samples were also submitted to a one assay-tonne gold fire assay, 30 gram nominal sample weight fire assay fusion by lead flux with Ag collector, with an atomic absorption finish. All sample batches were subjected to ALS Chemex's internal quality control procedure, results of which are provided in Appendix I.

2 Grind Control – Screen Analysis

In addition to the insertion of quality control samples, grind sizes are also monitored as part of the QAQC program. Good grind control is required at both the primary crushing and pulverization stages to meet the precision and accuracy requirements of the program. For this purpose, 535 samples were submitted to Ecotech Laboratories for screen analysis. These analyses were performed on primary crush reject material from the on-site laboratory and pulps from the analytical laboratory.

Screen analysis of 356 primary crush rejects indicate that 75% of samples were crushed to the Kemess Lab specification of "better than 80 % minus 10-mesh". All primary crush rejects do meet a specification of better than 60 % minus 10-mesh.

Screen analysis of 179 pulps indicate that 82% of pulps were pulverized to the ALS Chemex specification of "better than 85 % minus 150-mesh (-75 microns)". All pulps do meet a specification of better than 79 % minus 150-mesh.

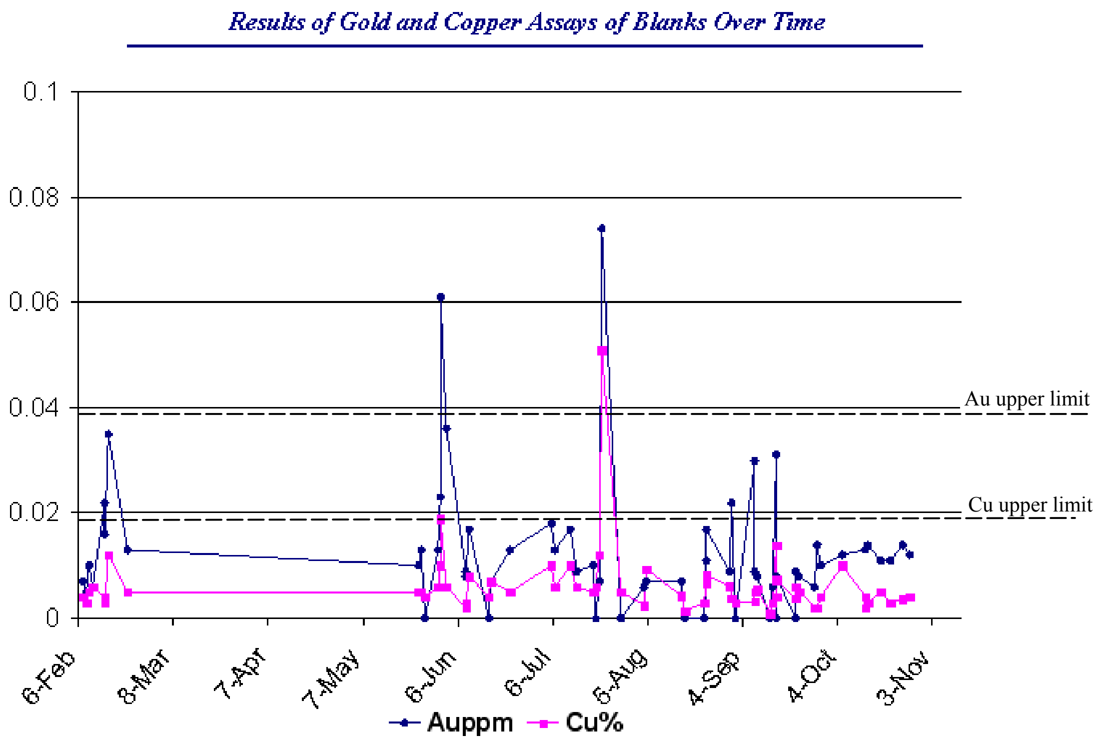
3 Contamination – Blanks

Contamination is the addition of an unacceptable amount, of an element under investigation, into a geological sample that is not contained in the original in-situ location of that sample. It can be monitored using samples, referred to as "blanks", which contain very low concentrations of the elements under investigation.

Throughout the 2005 program whole core blanks were used to test for contamination in the crushing stage through to final analysis. Barren intersections of Hazelton Group basalt were selected by a geologist and inserted into the sample preparation stream as whole core. Due to the unblended nature of these whole core blanks, a greater tolerance is allowed in the variability of the analytical results. The intended purpose of these samples was to identify significant contamination during sample preparation or analysis. These samples were not intended for use in monitoring analytical laboratory performance.

A total of 62 blanks were submitted during the 2005 program, amounting to 1 % of the entire population of samples. Results of blank analysis over time are presented in Figure 1.

Figure 1:



For gold, there are two blank outliers (tables 1a and 1b) outside the statistical upper control limit of mean plus 3 standard deviations of 0.04 g/t for gold. For copper, there is one blank sample that is outside the statistical upper control limit of 0.02 % Cu (table 1a).

Table 1a: ***Blank Outlier and Mainstream Comparison***

Sample	Au ppm	Cu %	Ag ppm	Ba ppm
218968	0	0.002	0	50
218969 (blank)	0.074	0.051	1.2	120
218970	0.013	0.001	0	80

Table 1b: ***Blank Outlier and Mainstream Comparison***

Sample	Au ppm	Cu %	Ag ppm	Ba ppm
217479	0	0.015	0	20
217480 (blank)	0.061	0.019	0	970
217481	0	0.016	0.2	40

The gold outliers, samples 218969 and 217480, display ICP signatures that are typical for Hazelton Group rocks, with the exception of elevated Ag and Ba contents, which are typically associated with rare gold mineralization noted in Hazelton rocks. From this it can be concluded that these outliers indicate natural, in-situ, geologic variation of the blank material rather than contamination from adjacent samples or other sources during sample preparation. The copper outlier, sample 218969, is also one of the gold outliers, which supports the conclusion that this is natural, in-situ, geologic variation, as the rare gold mineralization noted in Hazelton rocks commonly exhibits elevated levels of copper.

Quality control results indicate that no significant or systematic contamination occurred during the 2005 program.

4 Accuracy – Standards

Accuracy is the degree to which an analysis approaches the true concentration of the material being analyzed. The only way to examine this aspect of analytical laboratory performance is by the insertion of prepared reference materials of known grade, referred to as "standards", into the sample stream. For the 2005 program, four certified RockLabs standards OXD-27, OXE-21, OXH-29, and SF-12, were inserted and their results monitored over the course of the program. Standard gold grade characteristics and acceptable performance limits are presented in Table2. The control limits were set, as recommended by RockLabs, at the mean grade +/- three times the standard deviation reported by RockLabs (Appendix II).

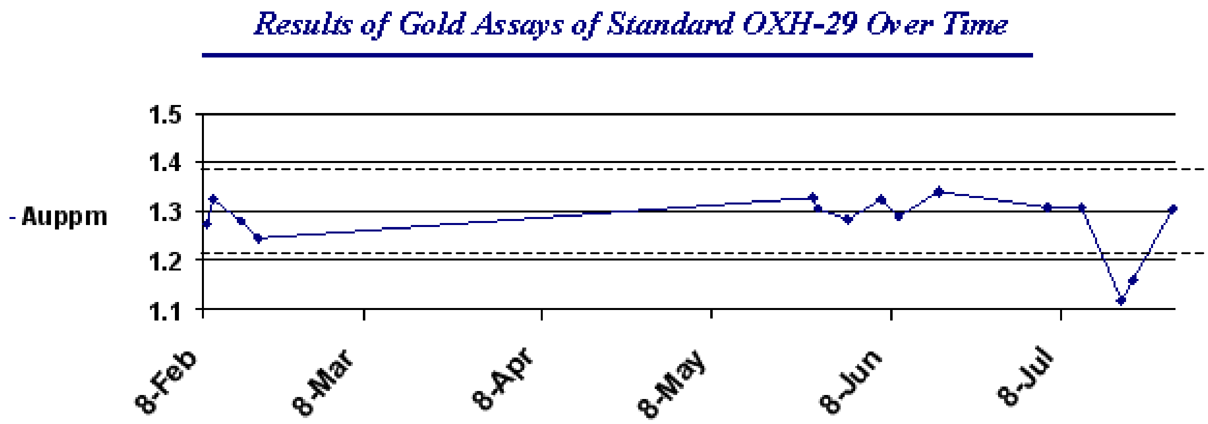
Table 2: ***Standard Control Limits***

Standard	Mean Au ppm	SD Au ppm	Lower Limit	Upper Limit
OXH-29	1.298	0.030	1.208	1.388
OXE-21	0.651	0.026	0.573	0.729
SF-12	0.819	0.024	0.747	0.891
OXD-27	0.416	0.050	0.266	0.566

Since these standards were designed and intended for use as gold standards, their use as copper standards is limited in that the accuracy of higher grade copper assays can only be inferred from the lower grade copper results reported for these standards. Also, the standards were not blind to the lab, as they arrived as minus 150-mesh pulps in a stream of minus10-mesh crushed material.

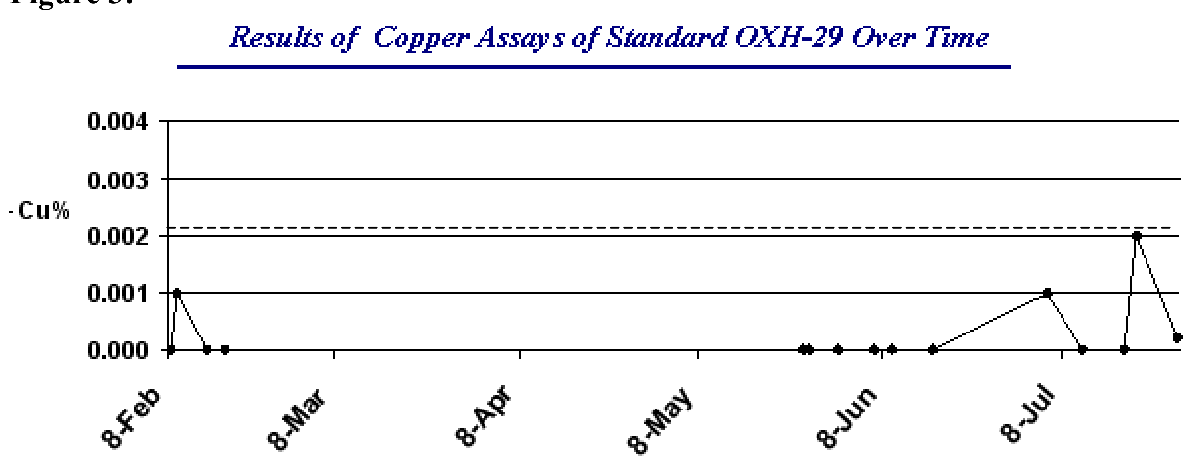
A total of 61 standards were submitted during the 2005 program, amounting to 1 % of the entire population of samples. Results of gold and copper analysis of standards over time are presented in Figures 2 through 9.

Figure 2:



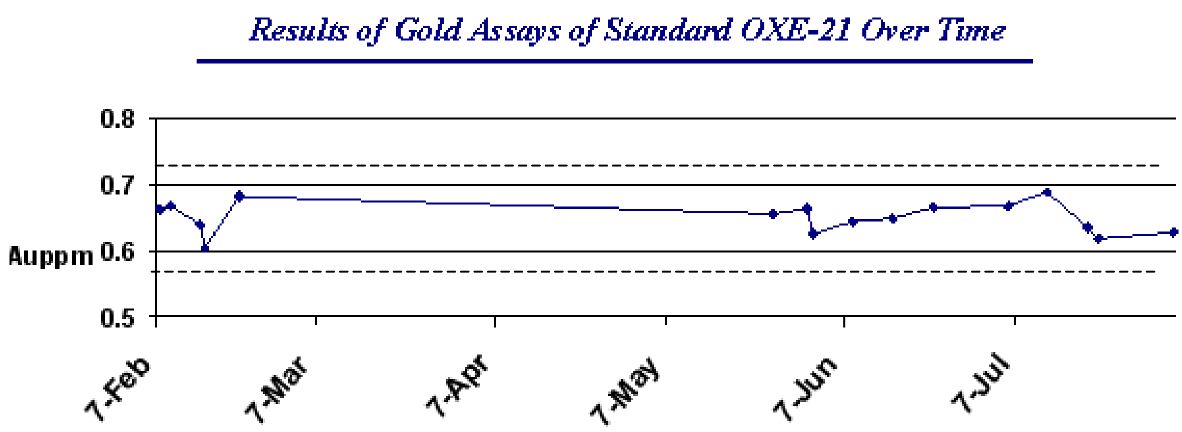
For standard OXH-29 there are two outliers outside Rocklab's recommended mean +/- 3 standard deviation control limits (dashed lines) of 1.21 and 1.39 g/t for gold. These outliers were investigated and laboratory QC results indicated no bias or errors. Standard material can vary from the parent standard evaluated by Rocklabs. In this case calculated limit based on standard performance can be used. The calculated limits for OXH-29 are 1.09 and 1.47 g/t for gold. Based on these limits the performance of the standards was deemed acceptable.

Figure 3:



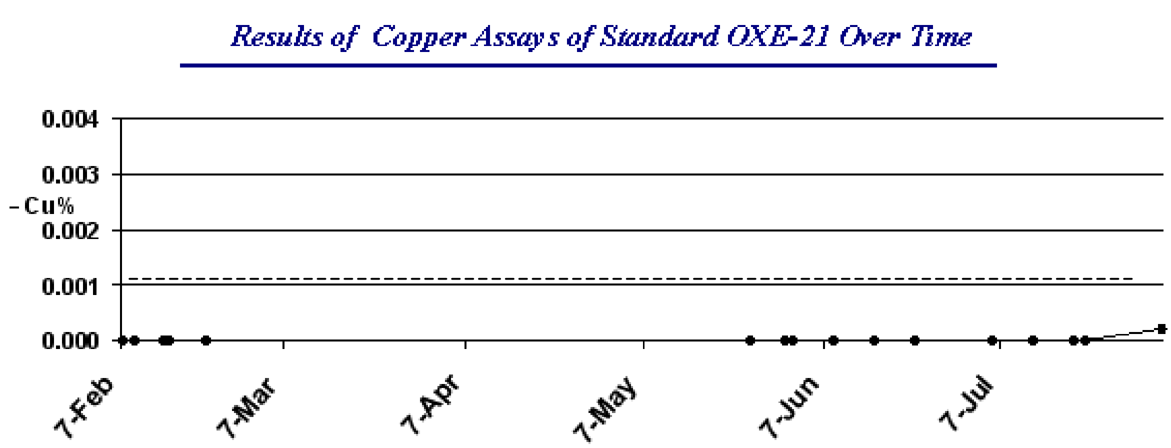
There are no OXH-29 outliers above the 0.002 % control limit (dashed line) for copper. One sample, processed in July, did report at the upper limit.

Figure 4:



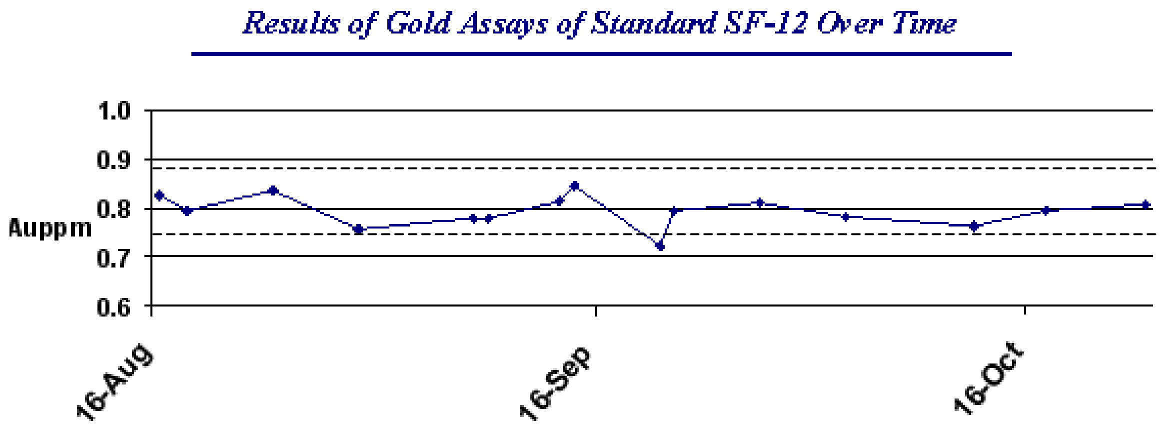
For standard OXE-21 there are no outliers outside Rocklab's recommended mean +/- 3 standard deviation control limits (dashed lines) of 0.57and 0.73g/t for gold.

Figure 5:



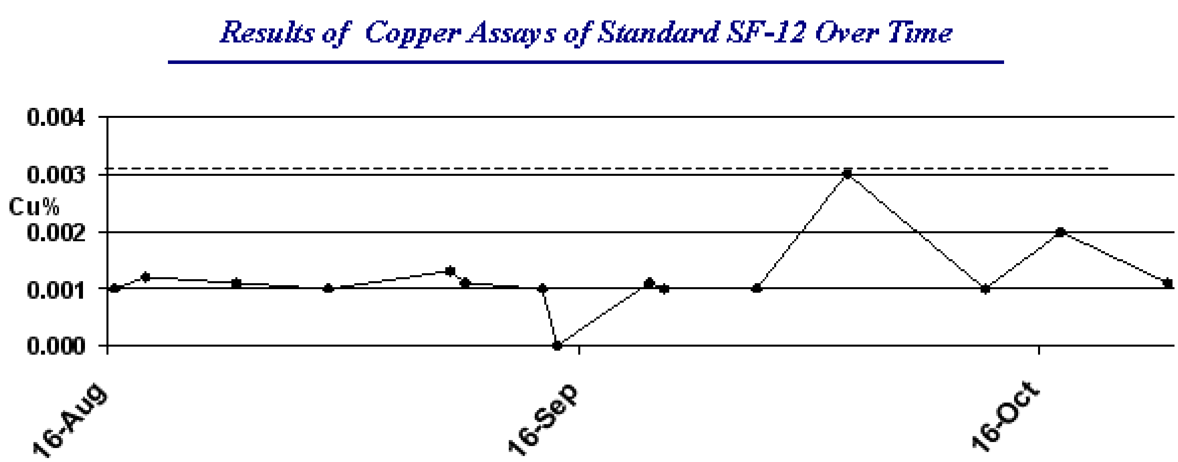
There are no OXE-21 outliers above the 0.001 % control limit (dashed line) for copper.

Figure 6:



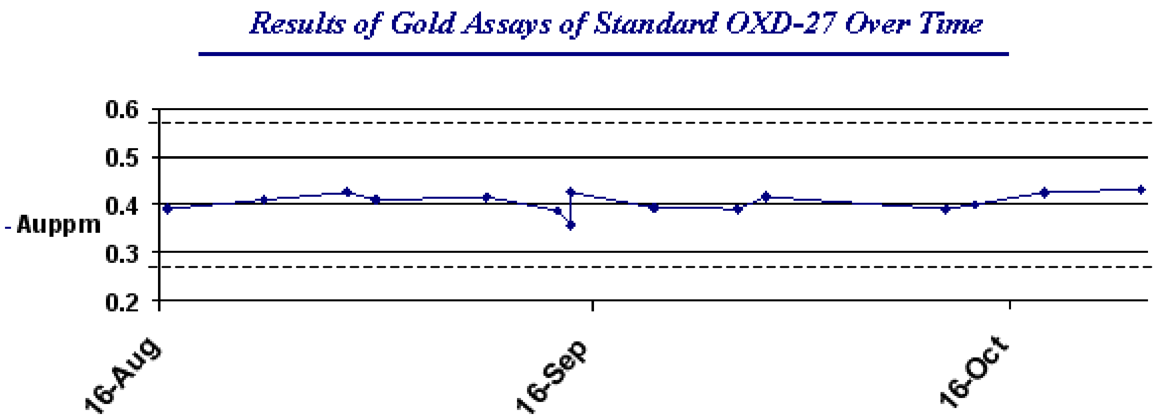
For standard SF-12 there is one outlier outside Rocklab's recommended mean +/- 3 standard deviation control limits (dashed lines) of 0.75and 0.89g/t for gold. There are no outliers outside calculated mean +/- 3 standard deviation control limits of 0.70and 0.89g/t for gold. Based on these limits the performance of the standards was deemed acceptable.

Figure 7:



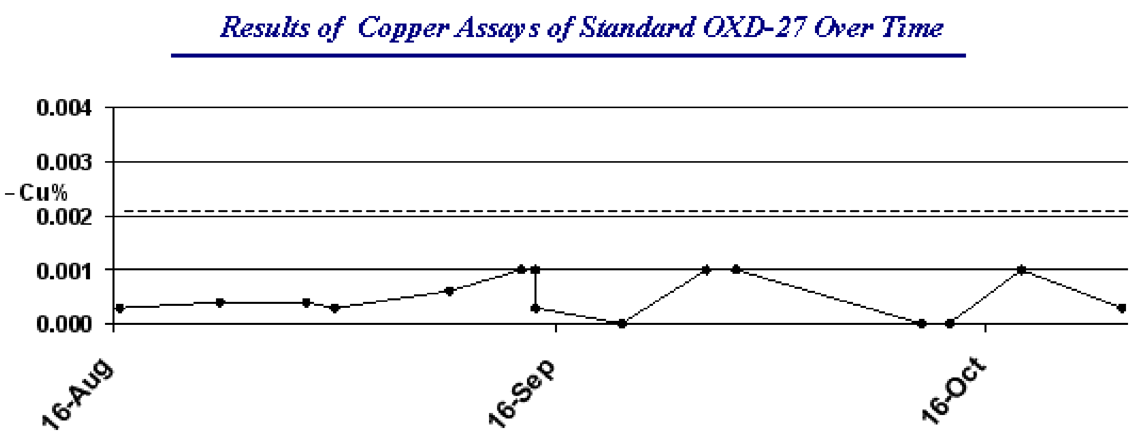
There are no SF-12 outliers above the 0.003 % control limit (dashed line) for copper. One sample, processed in October, did report at the upper limit.

Figure 8:



For standard OXD-27 there are no outliers outside Rocklab's recommended mean +/- 3 standard deviation control limits (dashed lines) of 0.27and 0.57g/t for gold.

Figure 9:



There are no OXD-27 outliers above the 0.002 % control limit (dashed line) for copper. For the full set of standard over the entire course of the program, there are no standard results outside of the specified control limits for both gold and copper.

5 Precision – Duplicates

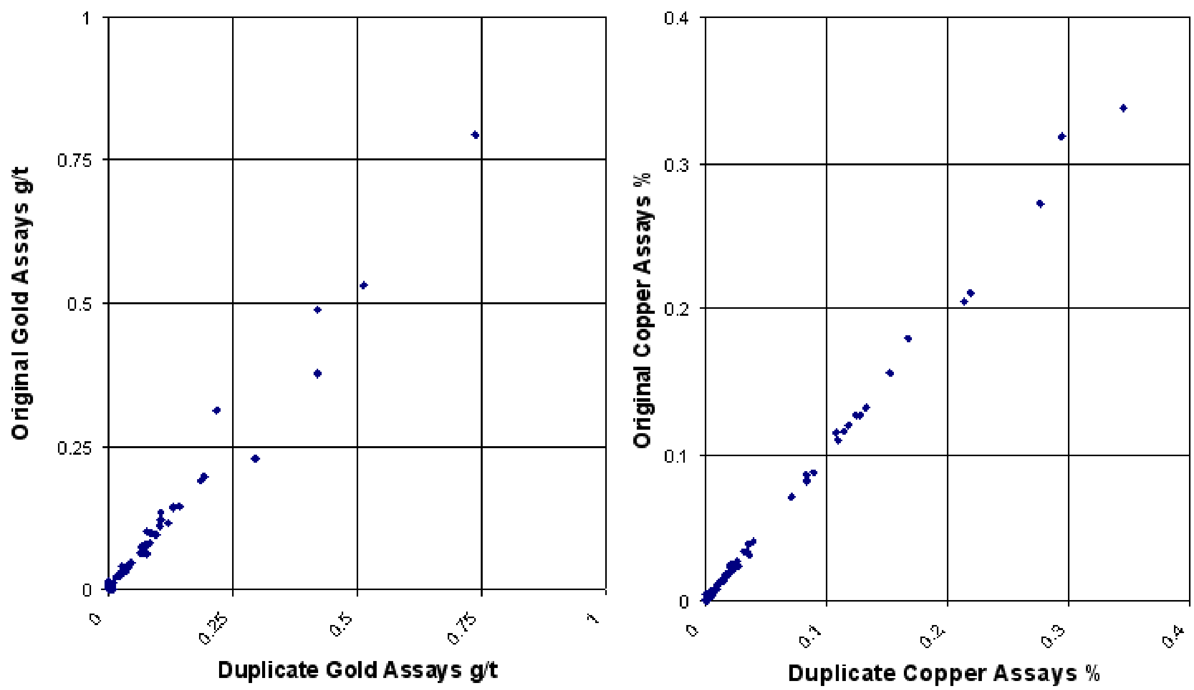
In simple terms precision refers to how tight a group of estimates is; as in the archery target and arrows analogy. Precision is formally defined as the percent relative variation at the two standard deviation (95%) confidence level. As the concentration of a given element decreases, its percent precision will increase. Once percent precision reaches 100 % the true detection limit is defined.

Combined preparation and analytical precision is examined using matched pairs created by taking a second split, referred to as a "duplicate", from randomly selected original mainstream crushed sample rejects. These matched pairs of duplicates and originals are used to measure precision and how it varies with grade.

For the 2005 program 123 duplicate samples were submitted to ALS Chemex at regularly spaced intervals throughout the program, amounting to 2 % of the entire population of samples submitted. Two duplicates were removed form the data set as one was actually a blank and another was reported in error as a duplicate of itself. The scatter plots in figures 10 and 11 show the 121 valid matched-pair data for gold and copper respectively.

Figures 10 and 11:

Results of Reject Duplicate Gold and Copper Assays

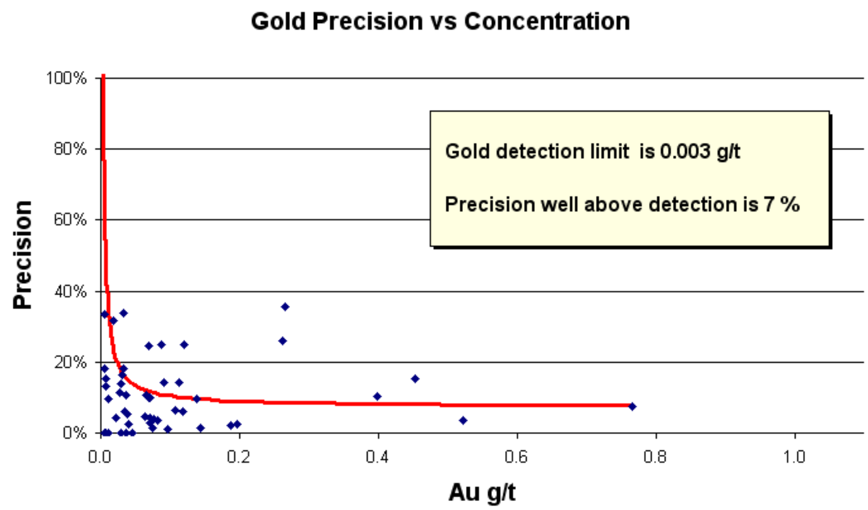


Outliers are defined as those matched pairs with a grade differences over 0.1 g/t gold or 0.1 % copper and greater than 25 % precision. Using these criteria there are no outlier matched-pairs for copper but there are two for gold. For the gold outliers, comparisons between ICP signatures for each of the outlier-matched-pairs and surrounding samples were used to determine if these are erroneous data points or valid outliers representing real nugget effects. This comparison indicates that the outliers presented in Tables 3 represent a real but weak nugget effects in samples from similar mineralization in the same rock unit in the same area of the Kemess North deposit.

Table 3: ***Gold - Valid Matched-Pair Outliers***

QAQC Sample Number	Sample Duplicated	Hole_ID	Lith1	Lith2	Group	Au ppm	Au Precision	Au Diff
221078	221061	KN-05-24	AAP	VBX	T	0.26	26 %	0.068
220832	220812	KN-05-23	AAP	VBX	T	0.27	35 %	0.094

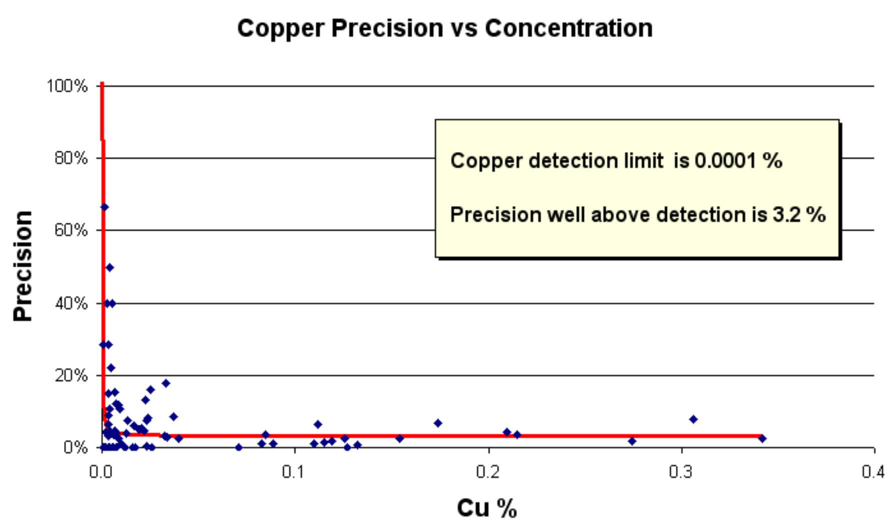
Figure 12:



Evaluation of matched-pair analyses indicates that the 2005 gold results are precise, with the exception of the two isolated outliers presented in Table 3. Good levels of precision are demonstrated at grades of interest, such as 9 % precision at 0.4 g/t, and the actual detection limit is close to the lower reporting limit, as it should be.

The calculated precision, presented as the red line in Figure 12, includes the isolated outliers from Kemess North deposit, which exhibit significant nugget effect. These samples are shown as the data points with greater than 25 % precision over 0.1 g/t in the left-center of Figure 12. It is recommended that in future programs, metallic gold assays and/or a larger assay aliquot be considered for samples from this area.

Figure 13:



Evaluation of matched-pair analyses indicates that copper results are precise. Good levels of precision are demonstrated at grades of interest, such as 3.7 % precision at a grade of 0.2 % copper. The actual detection limit is at the lower reporting limit, as it should be.

6 Summary and Conclusions

A total of 247 sample preparation and analytical quality control samples were submitted, at a frequency of 1 in 26, along with 6,188 prepared mainstream samples, to ALS Chemex during the Kemess Property 2005 Drilling program. This amounted to 4 % of the entire population of samples submitted to ALS Chemex, including 62 blanks, 61 standards, and 123 duplicates.

The 535 samples submitted for screen analysis indicate that all pulps were ground to better than 79 % minus 150-mesh and all primary crushes achieved a grind of better than 60 % minus 10-mesh.

Evaluation of the 62 gold and copper analyses of blanks indicates that no significant or systematic contamination or laboratory error occurred during the course of the program.

ALS Chemex results for the 61 quality control standards, analyzed throughout the program, reported within industry accepted +/- 3 standard deviation error limits.

Evaluation of 123 reject duplicate matched-pair analyses indicates that, for the vast majority of samples, results are precise at grades of interest. The precision levels are comparable to results of the 2002 through 2004 programs. Good levels of precision, 9 % precision for gold and 3 % for copper, are demonstrated at grades of 0.4 g/t and 0.2 % respectively.

Two samples, from holes within the Kemess North Deposit exhibited atypical nugget effects. These samples exhibit slightly greater than 25 % precision at grades greater than 0.2 g/t gold. It is recommended that, for future programs, metallic gold assays or larger assay aliquots be considered for samples from these areas, depending upon the objectives of the program in question.

Evaluation of the quality control results indicates that the preparatory work performed by Northgate/Kemess staff and the analytical work performed by ALS Chemex provided sound and accurate gold and copper results for the Kemess Property 2005 Drilling program. Therefore gold and copper results from this program are suitable for use in any subsequent resource/reserve estimation for Kemess Property Copper-Gold deposits.

Appendix I

Laboratory Quality Control Certification

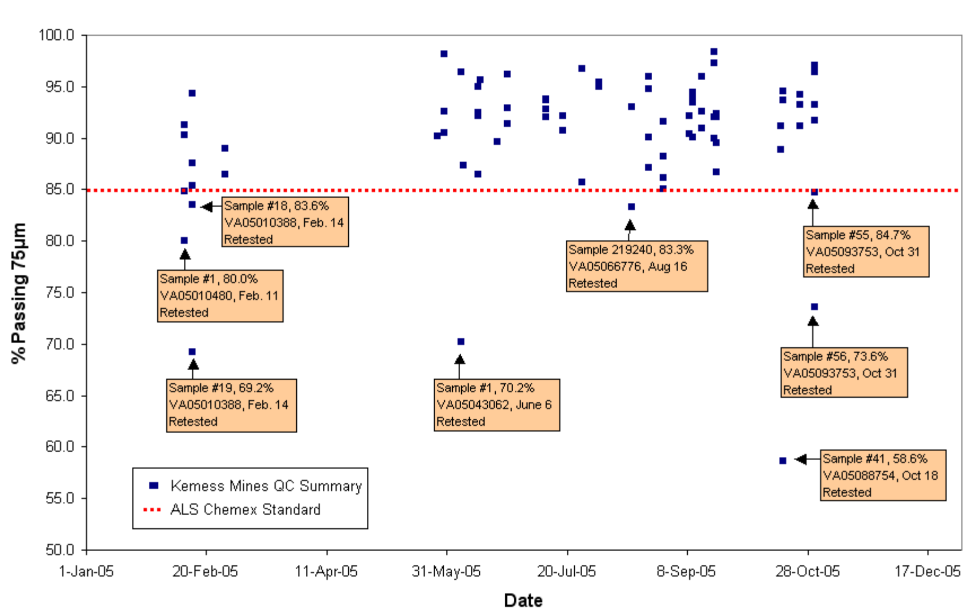
Double-Click on the following links to view pdf files:

QCDOC_VA0501038 6_4149-2000500.pdf	QCDOC_VA0501038 7_4149-2000503.pdf	QCDOC_VA0501038 9_4149-2000505.pdf	QCDOC_VA0501048 1_4149-2000507.pdf
QCDOC_VA0501153 9_4149-2000508.pdf	QCDOC_VA0501038 8_4149-2000504.pdf	QCDOC_VA0501312 0_4149-2000509.pdf	QCDOC_VA0501048 0_4149-2000506.pdf
QCDOC_VA0504106 5_4149-2000512.pdf	QCDOC_VA0501405 6_4149-2000510.pdf	QCDOC_VA0504166 2_4149-2000515.pdf	QCDOC_VA0504106 4_4149-2000511.pdf
QCDOC_VA0504166 1_4149-2000513.pdf	QCDOC_VA0504306 2_4149-2000516.pdf	QCDOC_VA0504306 3_4149-2000517.pdf	QCDOC_VA0504306 4_4149-2000518.pdf
QCDOC_VA0504551 4_4149-2000522.pdf	QCDOC_VA0504551 3_4149-2000520.pdf	QCDOC_VA0504551 7_4149-2000524.pdf	QCDOC_VA0504551 5_4149-2000523.pdf
QCDOC_VA0504782 4_4149-2000526.pdf	QCDOC_VA0505783 3_4149-2000529.pdf	QCDOC_VA0505001 9_4149-2000528.pdf	

Grind QAQC:

A total of 78 QC results are reported, eight of which are failures and eight of which are retests on following samples due to the failures. Overall, 11% of your samples at original pulverization were below our internal standard of 85% passing through 75µm screen. Our internal procedure action for failures is to reprocess the sample involved and previous samples that may have been affected until the amount of sample passing is equal to or greater than 85%.

Kemess Mines Prep QC Summary 2005 - Ringing



Appendix II

Reference Material Certification

Certificate of Analysis

Reference Material OxD27

Recommended Gold Concentration: 0.416 +/- 0.025 µg/g

The above values apply only to product in jars or sachets which have an identification number within the following range: *(The unique number range is not published on website)*

Prepared and Certified By:	Malcolm Smith BSc, FNZIC Malcolm Smith Reference Materials Ltd 2 Morriggia Place Auckland 10 **NEW ZEALAND** Telephone: +64 9 444 3534 Telefax: +64 9 444 7739 Email: mgs@xtra.co.nz
Date of Certification:	9 September 2002
Certificate Status:	Original. Future revisions (if any) will be notified on our website – www.rocklabs.com
Available Packaging:	This reference material has been packed in wide-mouthed jars that contain 2.5kg of product. The contents of some jars may be subsequently repacked into sealed polyethylene sachets.
Origin of Reference Material:	Feldspars with minor quantities of finely divided gold-containing minerals that have been screened to ensure there is no gold nugget effect.
Supplier of Reference Material:	ROCKLABS Ltd P O Box 18 142 Auckland **NEW ZEALAND** Email: rocklabs@clear.net.nz Telephone: +64 9 634 7696 Telefax: +64 9 634 6896

Description: The component minerals have been well mixed and a homogeneity test carried out after the entire batch was packaged into wide-mouthed jars to ascertain that the gold is

Reference Material OxE21

Recommended Gold Concentration: 0.651 µg/g

95% Confidence Interval: +/- 0.012 µg/g

The above values apply only to product in jars or sachets which have an identification number within the following range: *(The unique number range is not published on website)*

Prepared and Certified By:	Malcolm Smith BSc, FNZIC Malcolm Smith Reference Materials Ltd 2 Morriggia Place Auckland 10 NEW ZEALAND Telephone: +64 9 444 3534 Telefax: +64 9 444 7739 Email: mgs@xtra.co.nz
Date of Certification:	12 December 2001
Certificate Status:	Original
Available Packaging:	This reference material has been packed in wide-mouthed jars that contain 2.5kg of product. The contents of some jars may be subsequently repacked into sealed polyethylene sachets.
Origin of Reference Material:	Feldspars with minor quantities of finely divided gold-containing minerals that have been screened to ensure there is no gold nugget effect.
Supplier of Reference Material:	ROCKLABS Ltd P O Box 18 142 Auckland NEW ZEALAND Email: rocklabs@clear.net.nz Telephone: +64 9 634 7696 Telefax: +64 9 634 6896
Description:	The component minerals have been well mixed and a homogeneity test carried out after the entire batch was packaged into wide-mouthed jars to ascertain that the gold is evenly distributed throughout the reference material. There is no soil component. The product contains crystalline quartz and therefore dust from it should not be inhaled.

The approximate chemical composition is: Uncertified Values)

	%
SiO_2	68.87
Al_2O_3	18.63
Na_2O	10.52
K_2O	0.31
CaO	0.47
MgO	0.12
TiO_2	0.05
MnO	0.01
P_2O_5	0.15
Fe_2O_3	0.40
L O I	0.26

Intended Use: This reference material is designed to be included with every batch of samples analysed and the results plotted for quality monitoring purposes.

Stability: The container (jar or sachet) and its contents should not be heated to temperatures higher than 50 °C. The reference material is stable, with weight changes of less than 0.5% at extremes of naturally occurring temperature and humidity conditions.

Instructions for Use: Weigh out quantity usually used for analysis and analyze for total gold by normal procedure. Homogeneity testing has shown that consistent results are obtainable for gold when 30g portions are taken for analysis. Homogeneity cannot be guaranteed for gold if smaller weights are taken for analysis.

Method of Preparation: Pulverized feldspar minerals were blended with finely pulverized and screened, gold-containing minerals. Once the powders were uniformly mixed the composite was placed into 1165 wide-mouthed jars, each bearing a unique number. 35 jars were randomly selected from the packaging run and material from these jars was used for both homogeneity and consensus testing.

Homogeneity Test:

30g portions were selected as follows for homogeneity testing by an independent laboratory.
Between Jar - Samples from the top of each of the 35 randomly selected jars.
Within Jar - The contents of three jars were compacted by vibration (to simulate the effect of freighting) and five samples removed successively from top to bottom from each of the three jars.
Reference Group - 12 homogeneous sub-samples (ie a control group) were prepared from one jar by taking approximately 400g and mixing by mat rolling, followed by coning and quartering to obtain 30g (approximate) portions for gold analysis.
Statistical analysis of the data indicated no significant difference in variability between the *Reference Group* and each of the other groups of samples at the 0.05 level of significance. As the homogeneity test was carried out using 30g analytical portions, the same degree of homogeneity cannot be guaranteed if smaller weights are taken for analysis.

Analytical Methodology:

Once homogeneity had been established, two sub-samples were submitted to a number of well-recognized laboratories in order to assign a gold value by consensus testing. The sub-samples were drawn from the 35 randomly selected jars and each laboratory received samples from two different jars. Indicative concentration ranges were given. Two laboratories used neutron activation and the remainder used fire assay for gold analysis.

Calculation of Certified Value:

Results for gold were returned from 27 laboratories. Assessment of each laboratory's performance was carried out on the basis of z-scores, partly based on the concept described in ISO/IEC Guide 43-1. Statistical analysis to identify outliers was carried out using the principles detailed in sections 7.3.2 – 7.3.4, ISO 5725-2: 1994. Details of the criteria used in these examinations are available on request. As a result of these statistical analyses, six sets of results were excluded for the purpose of assigning a gold concentration value to this reference material. A recommended value was thus calculated from the average of the remaining n = 21 sets of replicate results. The 95% confidence interval was estimated using the formula:-

$$X \pm ts/\sqrt{n}$$

(where X is the estimated average, s is the estimated standard deviation of the laboratory averages, and t is the 0.025 tail-value from Student's t-distribution with n-1 degrees of freedom). The recommended value is provided at the beginning of the certificate in µg/g (ppm) units. A summary of the results used to calculate the recommended value is listed on page 4 and the names of the laboratories that submitted results are listed

Legal Notice:

This certificate and the reference material described in it have been prepared with due care and attention. However ROCKLABS Ltd, Malcolm Smith Reference Materials Ltd and Tim Ball Ltd accept no liability for any decisions or actions taken following the use of the reference material.

Summary of Results Used to Calculate Gold Value
(not related to order of laboratories listed)

Gold (ppm)		
Sample 1	Sample 2	Average
0.60	0.62	0.610
0.60	0.63	0.615
0.690	0.548	0.619
0.64	0.60	0.620
0.615	0.625	0.620
0.603	0.640	0.622
0.625	0.640	0.633
0.66	0.63	0.645
0.65	0.64	0.645
0.67	0.63	0.650
0.702	0.607	0.655
0.65	0.66	0.655
0.657	0.654	0.656
0.64	0.68	0.660
0.732	0.605	0.669
0.69	0.65	0.670
0.68	0.67	0.675
0.682	0.671	0.677
0.68	0.69	0.685
0.71	0.67	0.690
0.71	0.68	0.695
Average of 21 sets = 0.651 ppm Standard deviation = 0.026 ppm Coefficient of variation = 4.0 % 95% Confidence interval = +/- 0.012 ppm		

Statistical analysis of both homogeneity and consensus test results has been carried out by an independent statistician.

Participating Laboratories

Australia

Amdel Laboratories Ltd, Adelaide
Amdel Laboratories Ltd, Perth
Analabs Pty Ltd, Perth
Analabs Pty Ltd, Townsville
Becquerel Laboratories, Lucas Heights
Genalysis Laboratory Services Pty Ltd, Perth
Standard and Reference Laboratories, Perth

Brazil

Lakefield Geosol Limitada

Canada

Acme Analytical Laboratories Ltd, British Columbia
Activation Laboratories Ltd, Ontario
ALS Chemex, British Columbia
Bondar Clegg, British Columbia
Bourlamaque Assay Laboratories Ltd, Quebec
Chimitec Bondar Clegg, Quebec
Geoscience Laboratories, Ontario
Lakefield Research Limited, Ontario

Ireland

OMAC Laboratories Ltd

New Zealand

Amdel New Zealand Ltd, Otago
SGS New Zealand Ltd, Waihi

South Africa

Anglo American Research Laboratories (Pty) Ltd
AngloGold, Vaal River
AngloGold, West Wits
Lakefield Research Africa (Pty) Ltd
Mintek, Analytical Science Division

United States of America

ALS Chemex, Nevada
Barrick Goldstrike Mines Inc, Nevada
Newmont Mining Corporation, Nevada

References:

For further information on the preparation and validation of this reference material please contact Malcolm Smith.

Certifying Officer	**Independent Statistician**
M G Smith BSc, FNZIC	Tim Ball BSc (Hons)
	Tim Ball

Back to top::

Certificate of Analysis

Reference Material OxH29

Recommended Gold Concentration: 1.298 µg/g
95% Confidence Interval: +/- 0.015 µg/g

The above values apply only to product in jars or sachets which have an identification number within the following range: *(The unique number range is not published on website)*

Prepared and Certified By:	Malcolm Smith BSc, FNZIC Malcolm Smith Reference Materials Ltd 2 Morriggia Place Auckland 10 **NEW ZEALAND** Telephone: +64 9 444 3534 Telefax: +64 9 444 7739 Email: mgs@xtra.co.nz
Date of Certification:	23 August 2002
Certificate Status:	Original
Available Packaging:	This reference material has been packed in wide-mouthed jars that contain 2.5kg of product. The contents of some jars may be subsequently repacked into sealed polyethylene sachets.
Origin of Reference Material:	Feldspars with minor quantities of finely divided gold-containing minerals that have been screened to ensure there is no gold nugget effect.
Supplier of Reference Material:	ROCKLABS Ltd P O Box 18 142 Auckland **NEW ZEALAND** Email: rocklabs@clear.net.nz Telephone: +64 9 634 7696 Telefax: +64 9 634 6896

Description: The component minerals have been well mixed and a homogeneity test carried out after the entire batch was packaged into wide-mouthed jars to ascertain that the gold is

Certificate of Analysis

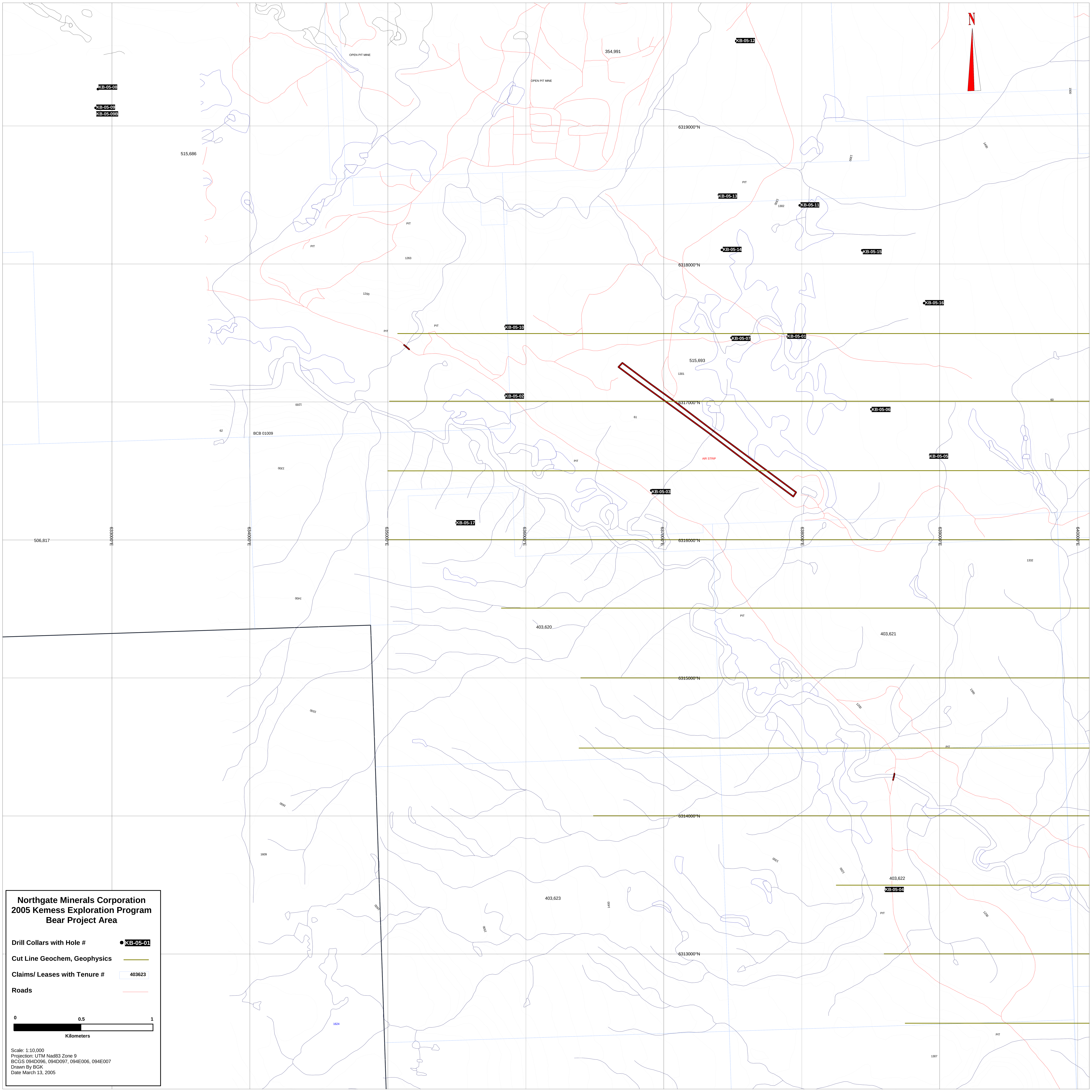
Reference Material SF12

Recommended Gold Concentration: 0.819 µg/g
95% Confidence Interval: +/- 0.012 µg/g

The above values apply only to product in jars or sachets which have an identification number within the following range: *(The unique number range is not published on website)*

Prepared and Certified By:	Malcolm Smith BSc, FNZIC Malcolm Smith Reference Materials Ltd 2 Morriggia Place Auckland 10 **NEW ZEALAND** Telephone: +64 9 444 3534 Telefax: +64 9 444 7739 Email: mgs@xtra.co.nz
Date of Certification:	23 August 2002
Certificate Status:	Original
Available Packaging:	This reference material has been packed in wide-mouthed jars that contain 2.5kg of product. The contents of some jars may be subsequently repacked into sealed polyethylene sachets.
Origin of Reference Material:	Feldspars and iron pyrites with minor quantities of finely divided gold-containing minerals that have been screened to ensure there is no gold nugget effect.
Supplier of Reference Material:	ROCKLABS Ltd P O Box 18 142 Auckland **NEW ZEALAND** Email: rocklabs@clear.net.nz Telephone: +64 9 634 7696

Description: The component minerals have been well mixed and a homogeneity test carried out after the entire batch was packaged into wide-mouthed jars to ascertain that the gold is


Northgate Minerals Corporation
2005 Kemess Exploration Program
Bear Project Area
Drill Collars with Hole #
KB-05-01
Cut Line Geochem, Geophysics
Claims/ Leases with Tenure #
403623
Roads
0
0.5
1
Kilometers
Scale: 1:10,000
Projection: UTM Nad83 Zone 9
BCGS 094D096, 094D097, 094E006, 094E007
Drawn By BGK
Date March 13, 2005
N
OPEN PIT MINE
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506,817
BCB 01009
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PIT
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6316000"N
6315000"N
6314000"N
6313000"N
633000"E
634000"E
635000"E
636000"E
637000"E
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639000"E
640000"E
KB-05-08
KB-05-09
KB-05-09B
KB-05-12
KB-05-13
KB-05-11
KB-05-14
KB-05-15
KB-05-16
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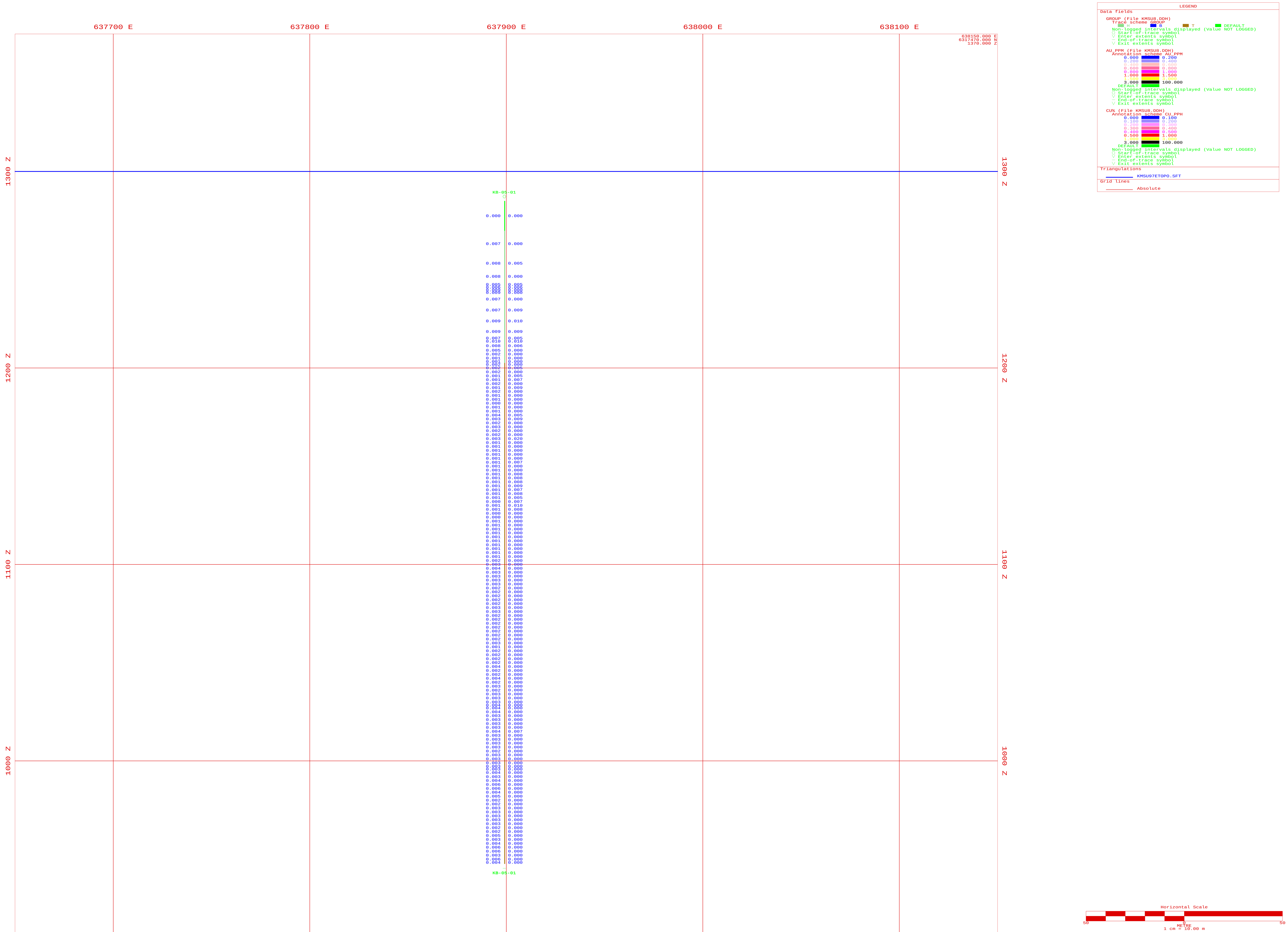
KB-05-17
KB-05-04



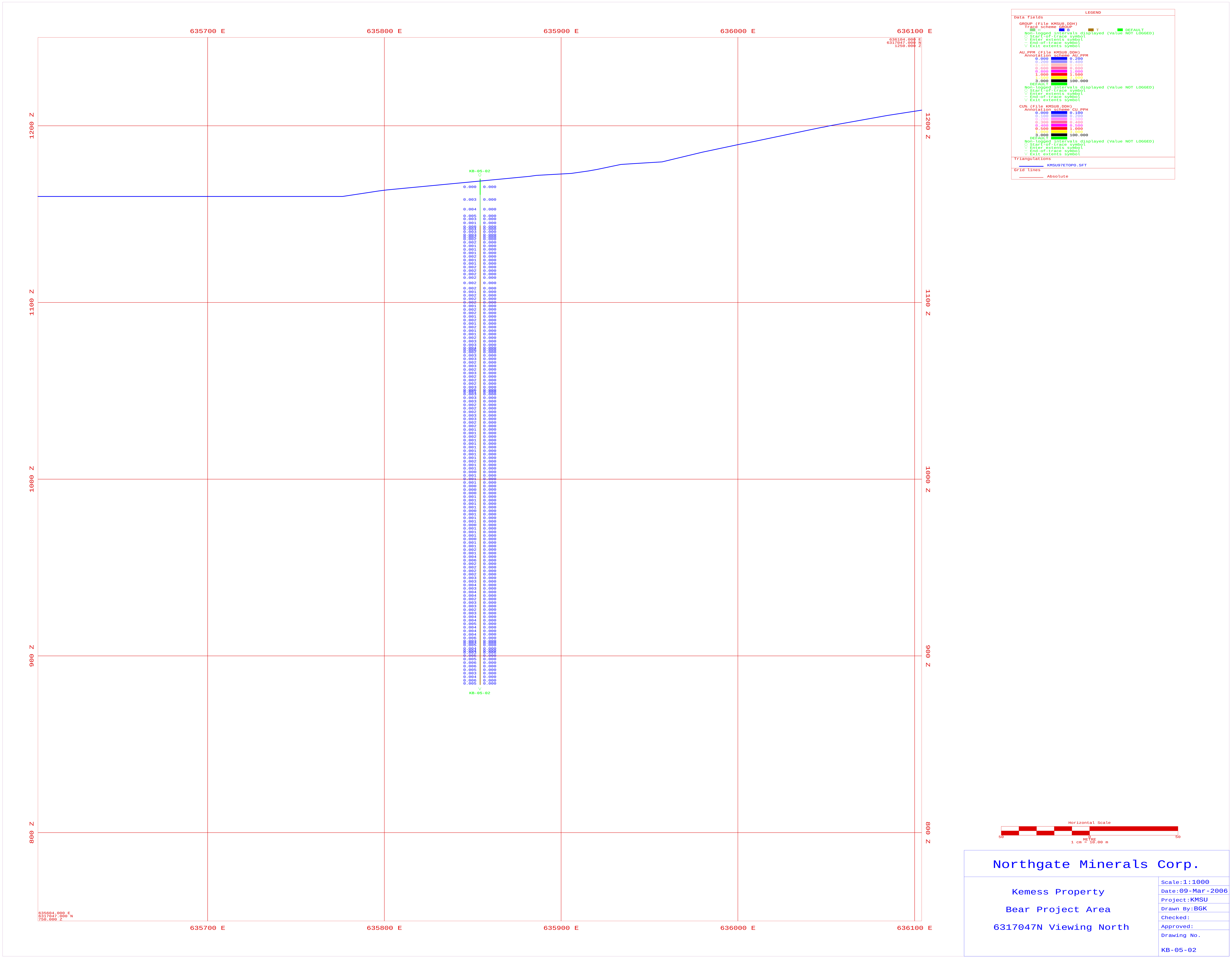
Northgate Minerals Corp.

Kemess Property

Bear Project Area

6317470N Viewing North

Scale:1:1000
Date:01-Mar-2006
Project:KMSU
Drawn By:BGK
Checked:
Approved:
Drawing No.
KB-05-01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636100 E
1200 Z
1100 Z
1000 Z
900 Z
800 Z
636104.000 E
6317047.000 N
1250.000 Z
635604.000 E
6317047.000 N
750.000 Z
KB-05-02
LEGEND
Data fields
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Trace scheme GROUP
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End-of-trace symbol
Exit extents symbol
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Annotation scheme AU_PPM
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0.800 1.000
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Annotation scheme CU_PPM
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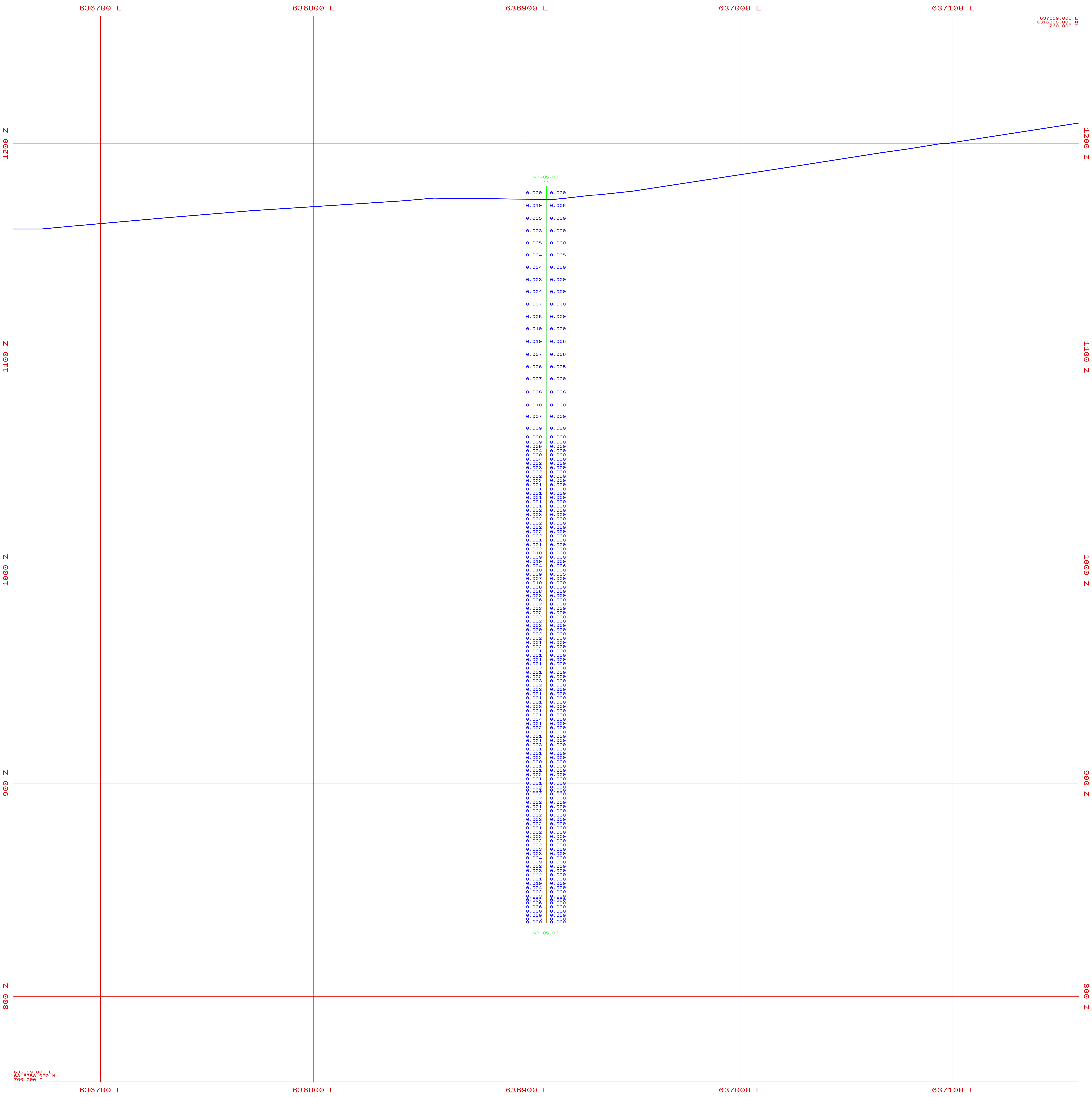
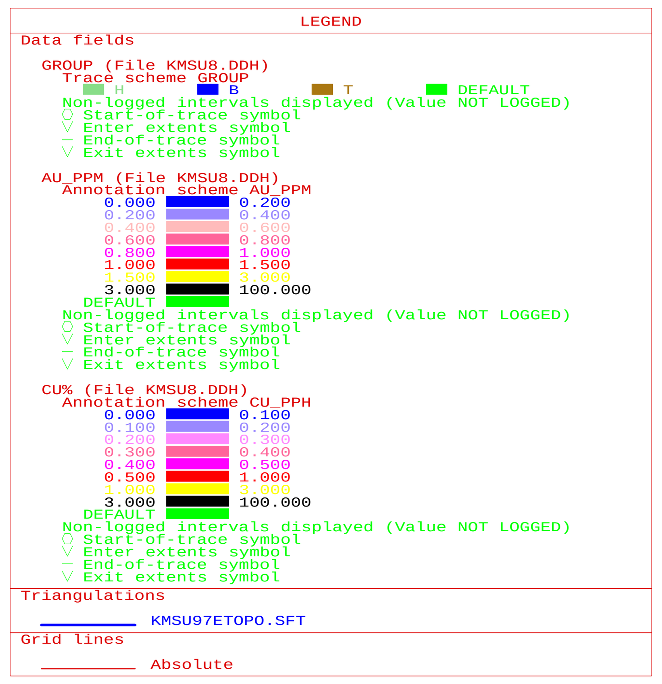
0.100 0.200
0.300 0.400
0.400 0.500
0.500 1.000
3.000 100.000
Triangulations
KMSU97ETOPO.SFT
Grid lines
Absolute
Horizontal Scale
50
50
METRE
1 cm = 10.00 m
Northgate Minerals Corp.
Kemess Property
Bear Project Area
6317047N Viewing North
Scale:1:1000
Date:09-Mar-2006
Project:KMSU
Drawn By:BGK
Checked:
Approved:
Drawing No.
KB-05-02





Horizontal Scale

50 0 50

METRE

1 cm = 10.00 m

Northgate Minerals Corp.

Kemess Property

Bear Project Area

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Scale:1:1000

Date:08-Mar-2006

Project:KMSU

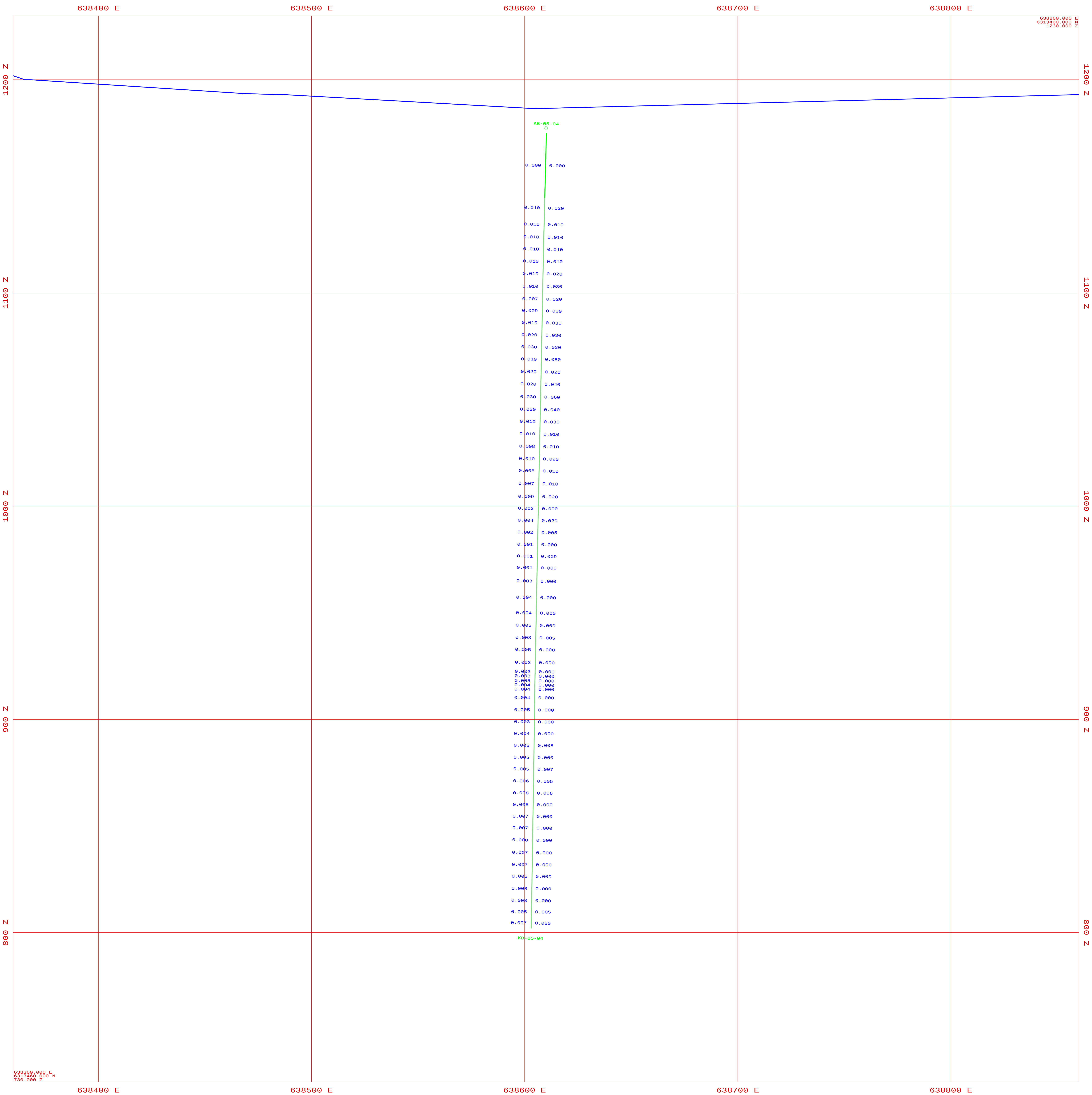
Drawn By:BGK

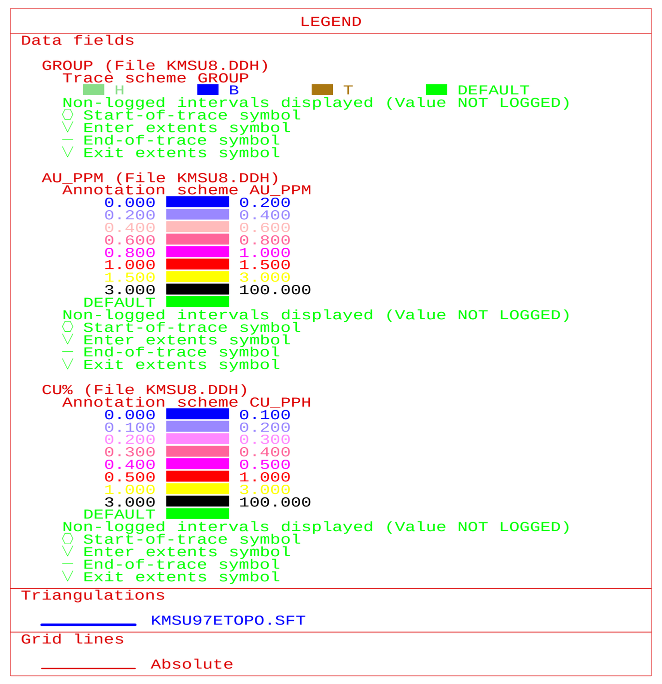
Checked:

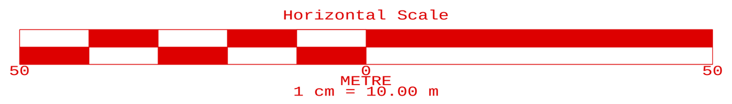
Approved:

Drawing No.

KB-05-03







Northgate Minerals Corp.

Kemess Property

Bear Project Area

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Project: KMSU	
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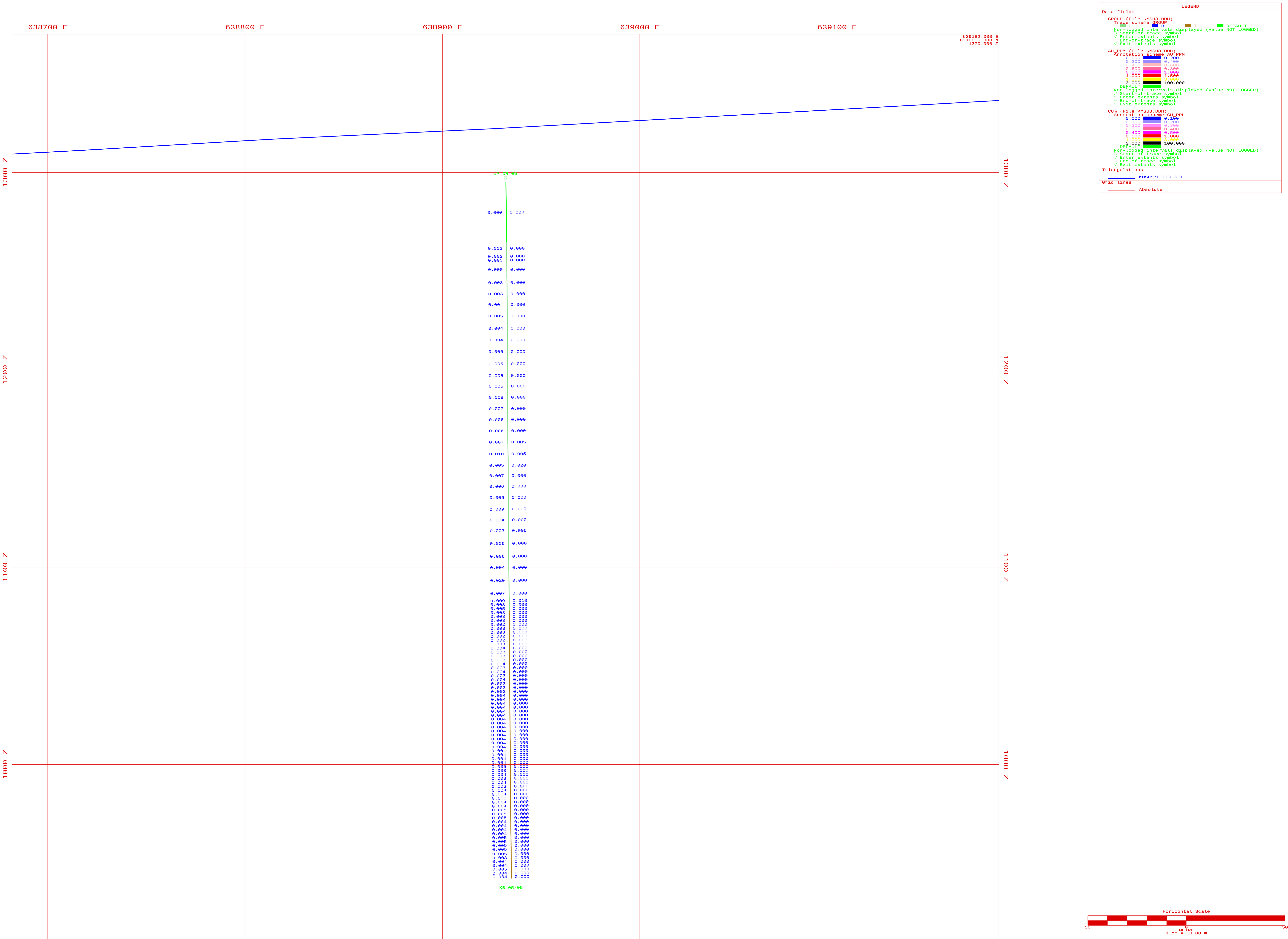
Approved:	
Drawing No.	KB-05-04



Northgate Minerals Corp.

Kemess Property

Bear Project Area

6316616N Viewing North

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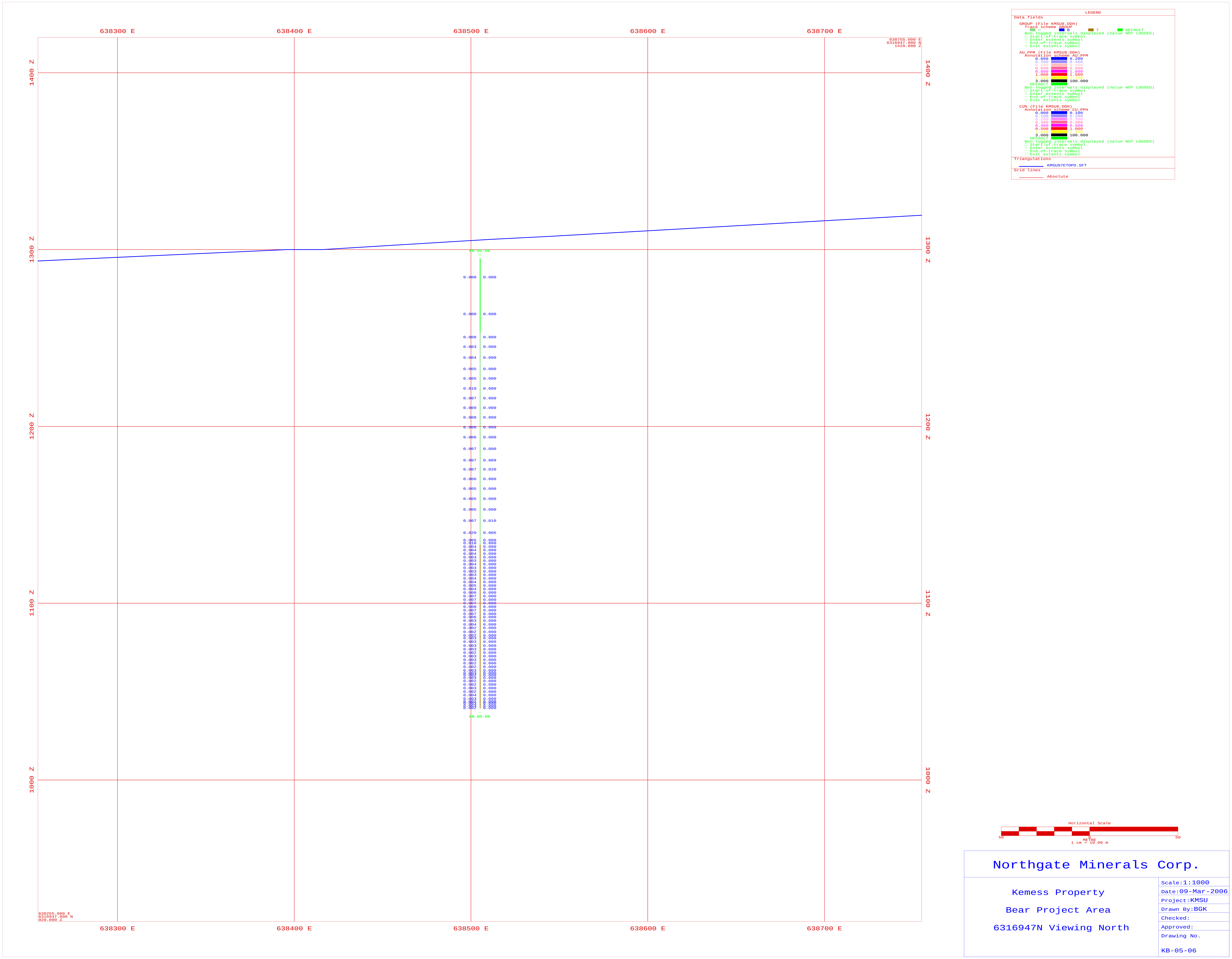
Date:	09-Mar-2006
Project:	KMSU
Drawn By:	BGK
Checked:	
Approved:	
Drawing No.	KB-05-05



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638600 E
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1200 Z
1100 Z
1000 Z
KB-05-06
LEGEND
Data fields
Triangulations
KMSU97ETOPO.SFT
Grid lines
Absolute
Horizontal Scale
METRE
1 cm = 10.00 m
Northgate Minerals Corp.
Kemess Property
Bear Project Area
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Scale:1:1000
Date:09-Mar-2006
Project:KMSU
Drawn By:BGK
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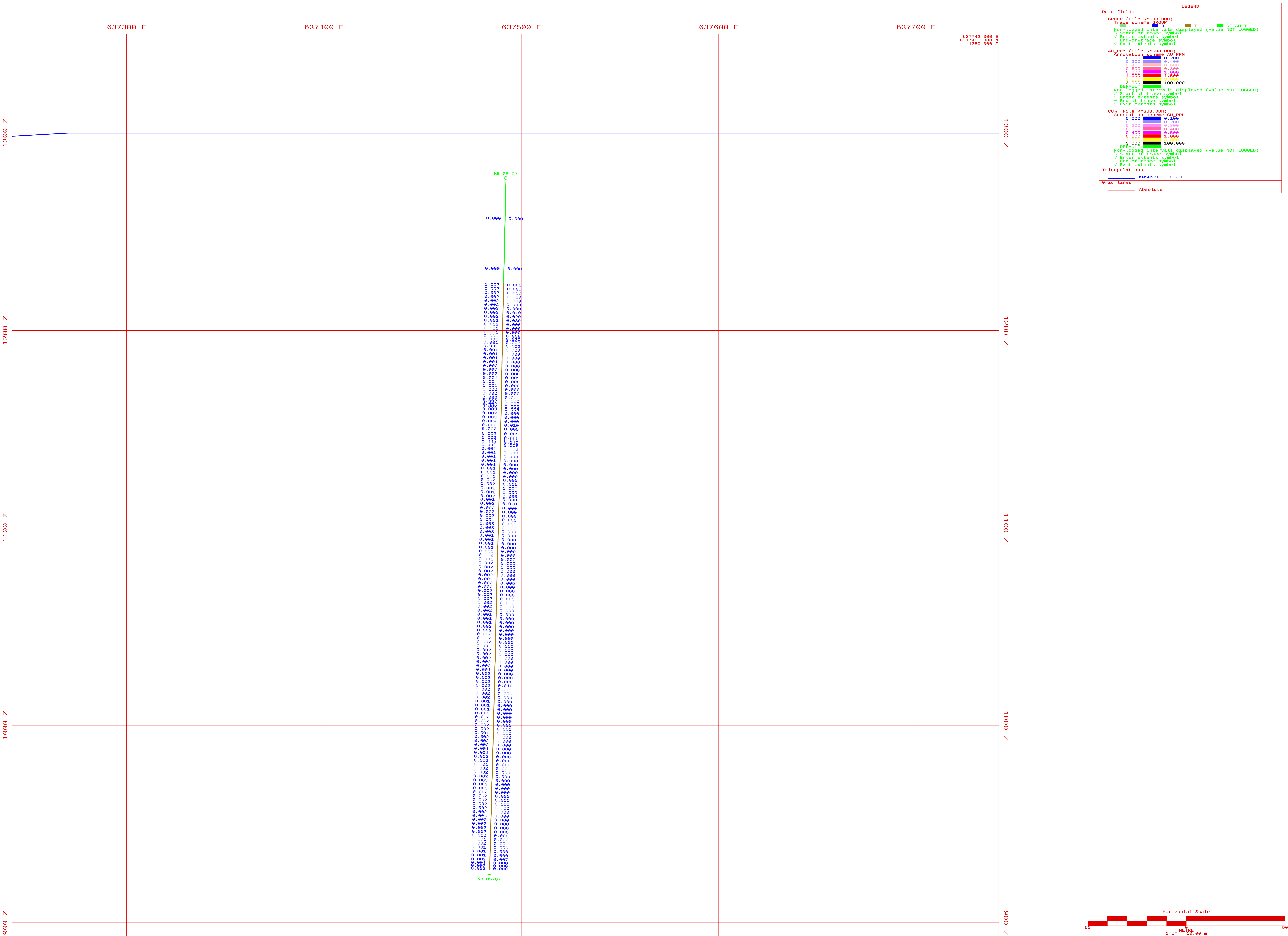
Approved:
Drawing No.
KB-05-06



Northgate Minerals Corp.

Kemess Property

Bear Project Area

6317465N Viewing North

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Project:KMSU	
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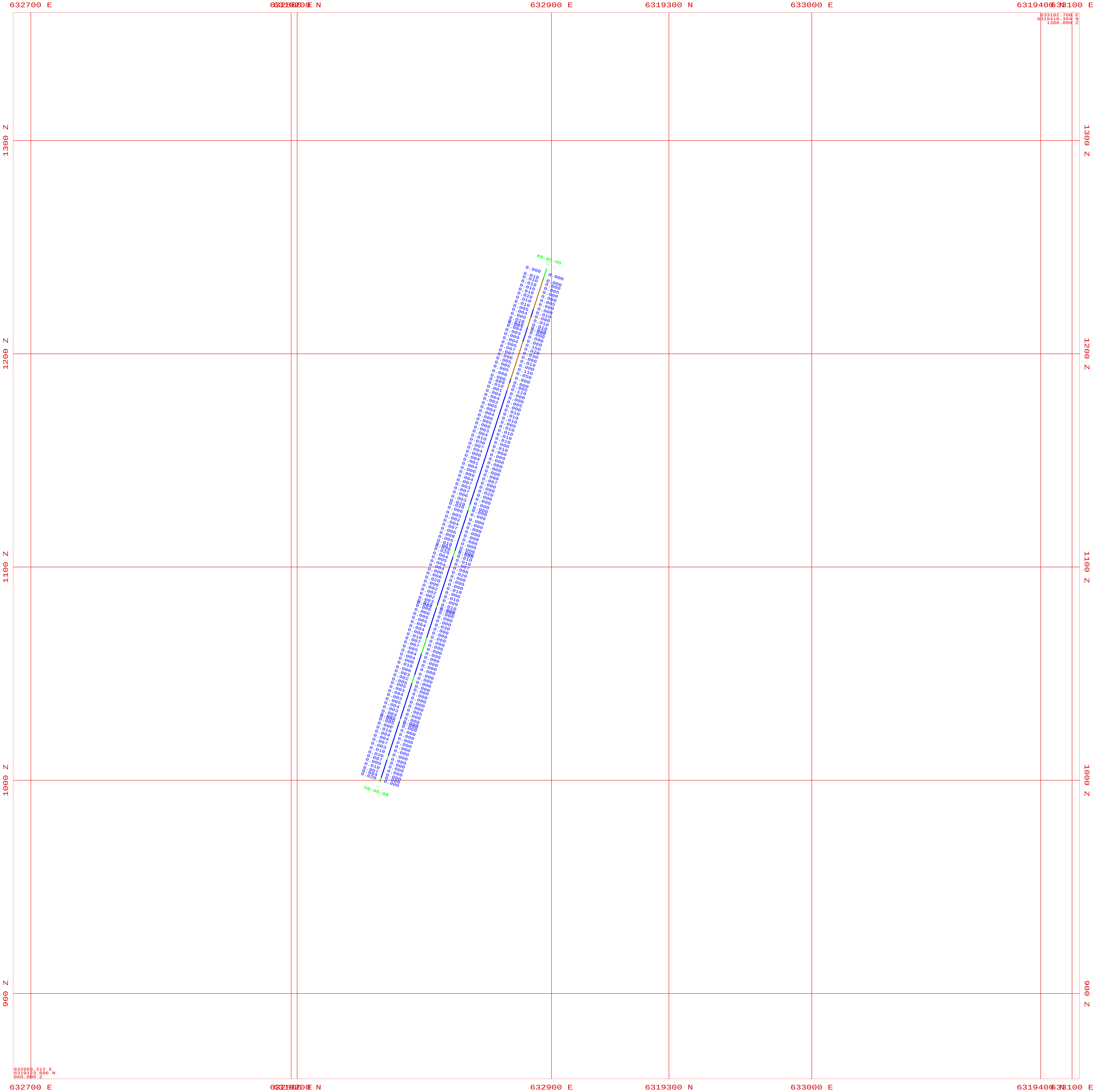
Checked:	
Approved:	
Drawing No.	KB-05-07



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End-of-trace symbol
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0.600 0.800
0.800 1.000
1.000 1.500
1.500 3.000
3.000 100.000
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Start-of-trace symbol
Enter extents symbol
End-of-trace symbol
Exit extents symbol

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Annotation scheme CU_PPH
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0.300 0.400
0.400 0.500
0.500 1.000
1.000 3.000
3.000 100.000
DEFAULT
Non-logged intervals displayed (Value NOT LOGGED)
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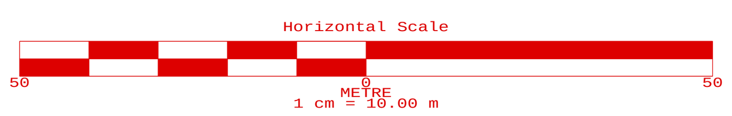
Triangulations
KMSU97ETOPO.SFT

Grid lines
Absolute



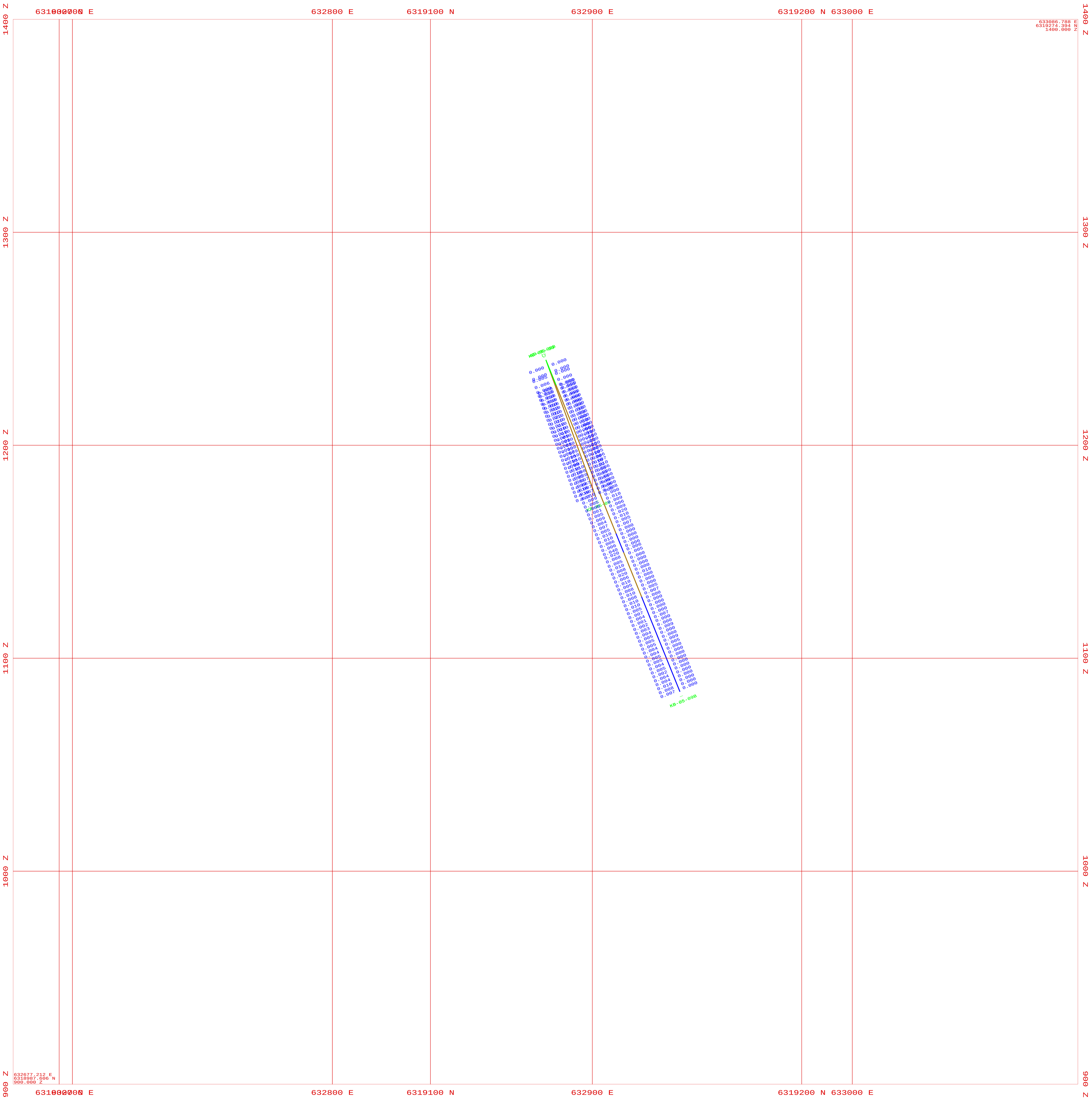
Northgate Minerals Corp.

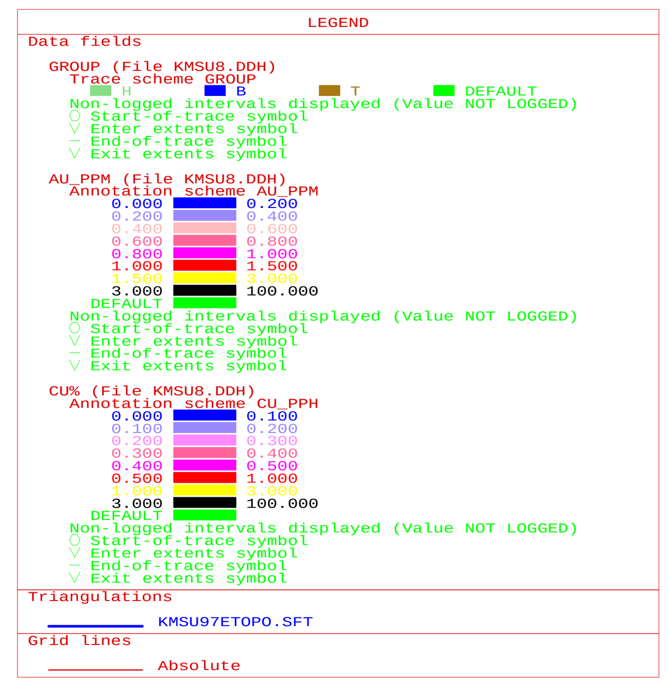
Kemess Property

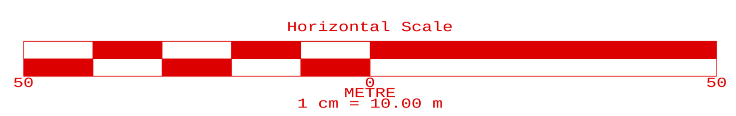
Bear Project Area

6319267N Viewing Northwest

Scale:1:1000
Date:09-Mar-2006
Project:KMSU
Drawn By:BGK
Checked:
Approved:
Drawing No.
KB-05-08







Northgate Minerals Corp.

Kemess Property

Bear Project Area

6319131N Viewing Northwest

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Project:	KMSU
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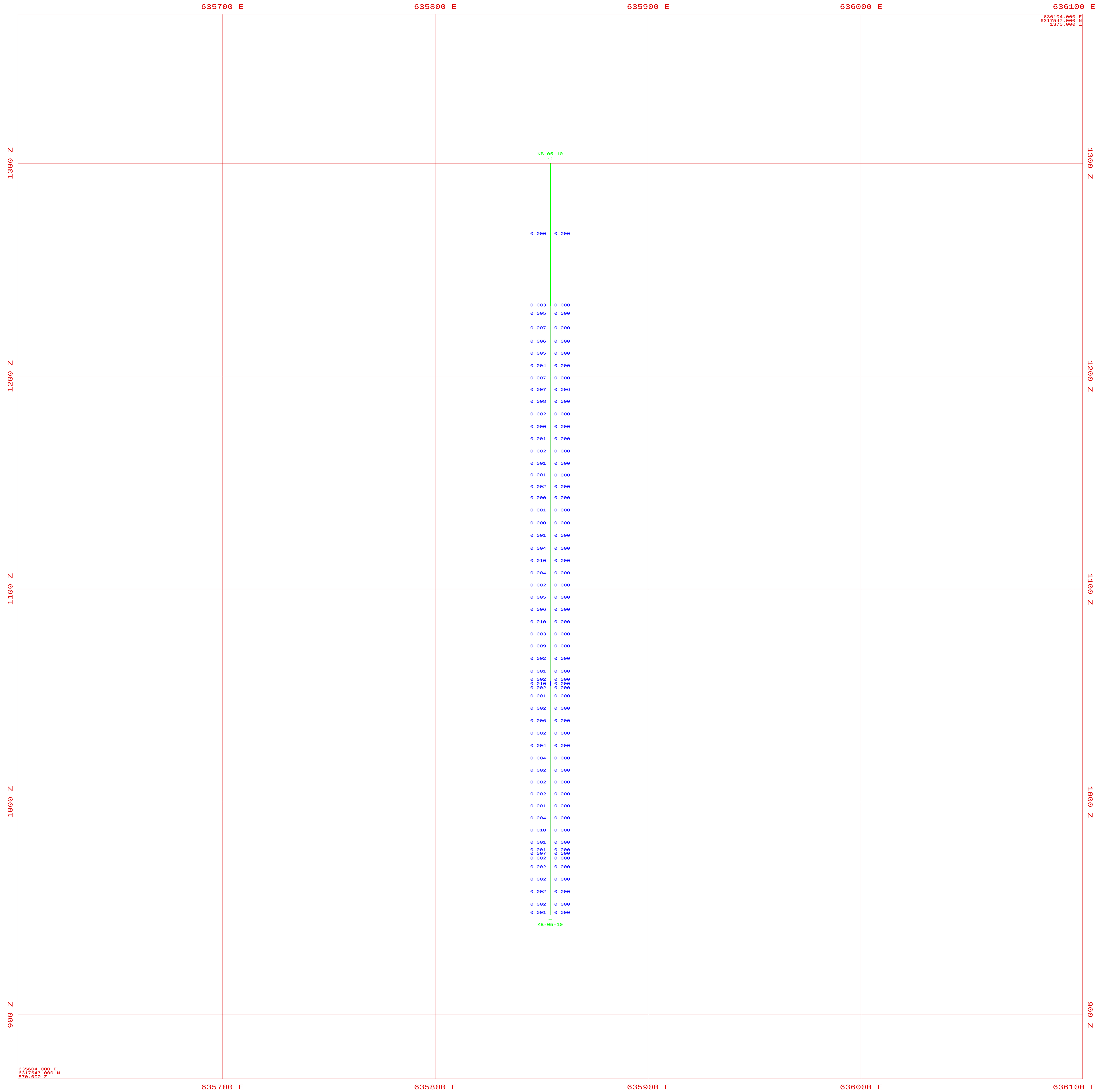
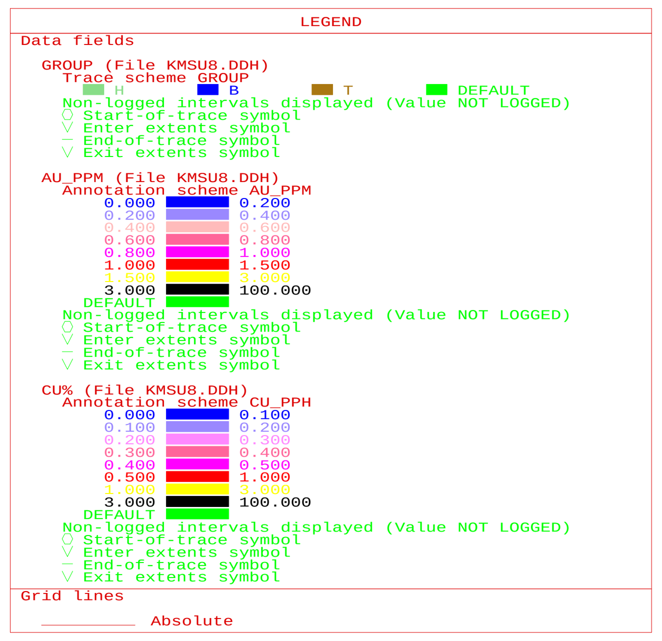
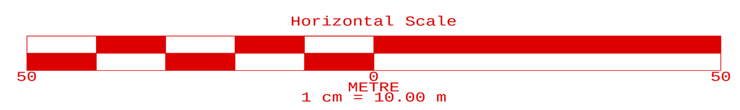
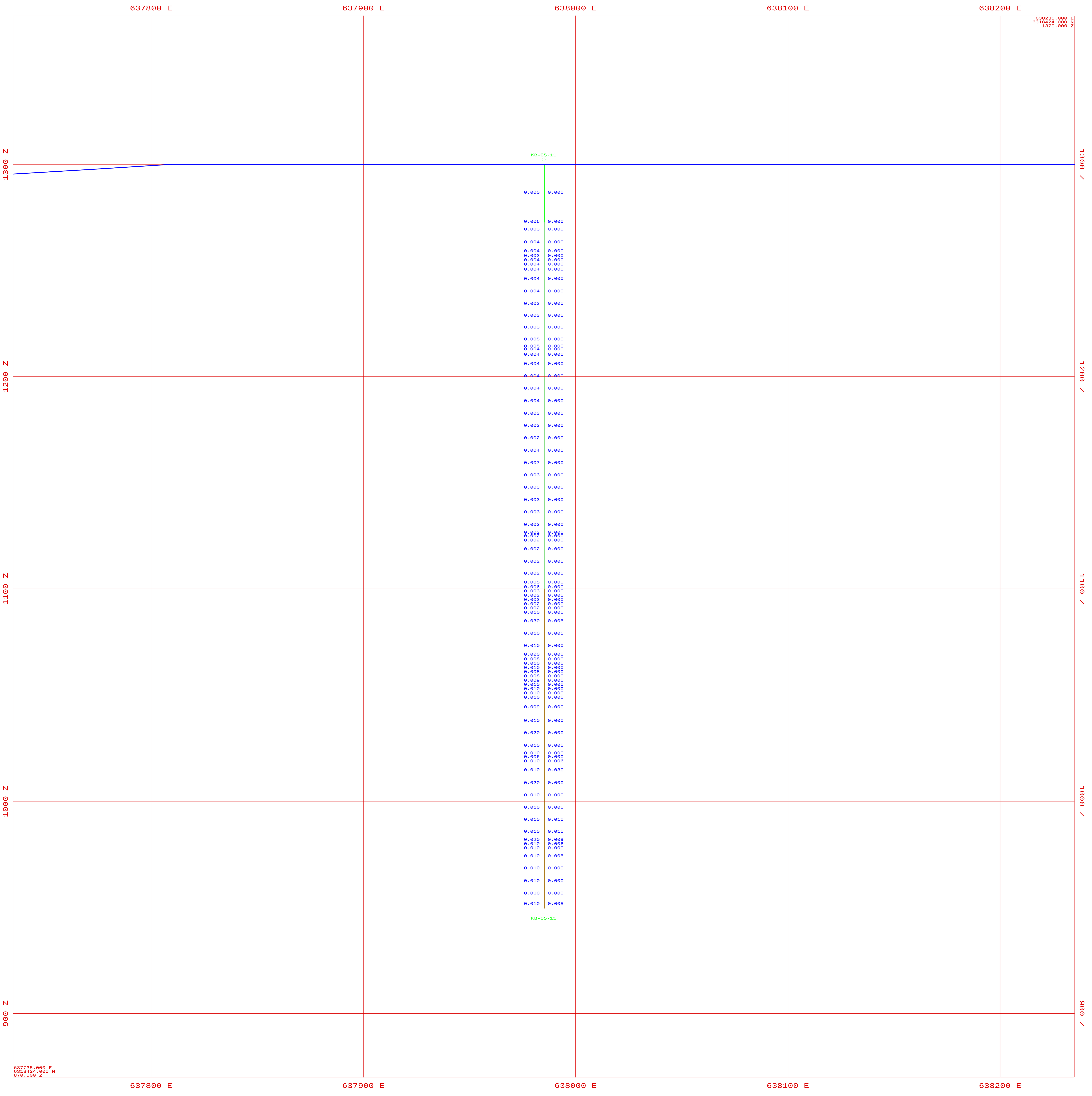






Northgate Minerals Corp.

Kemess Property	Scale:1:1000
Bear Project Area	Date:09-Mar-2006
6317547N Viewing North	Project:KMSU
	Drawn By:BGK
	Checked:
	Approved:
	Drawing No. KB-05-10



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1.500 3.000
3.000 100.000
DEFAULT
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Start-of-trace symbol
Enter extents symbol
End-of-trace symbol
Exit extents symbol

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0.400 0.500
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1.000 3.000
3.000 100.000
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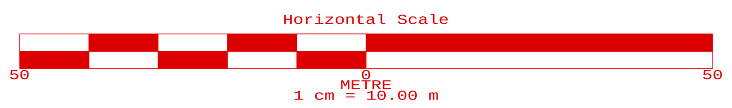
Triangulations
KMSU97ETOPO.SFT

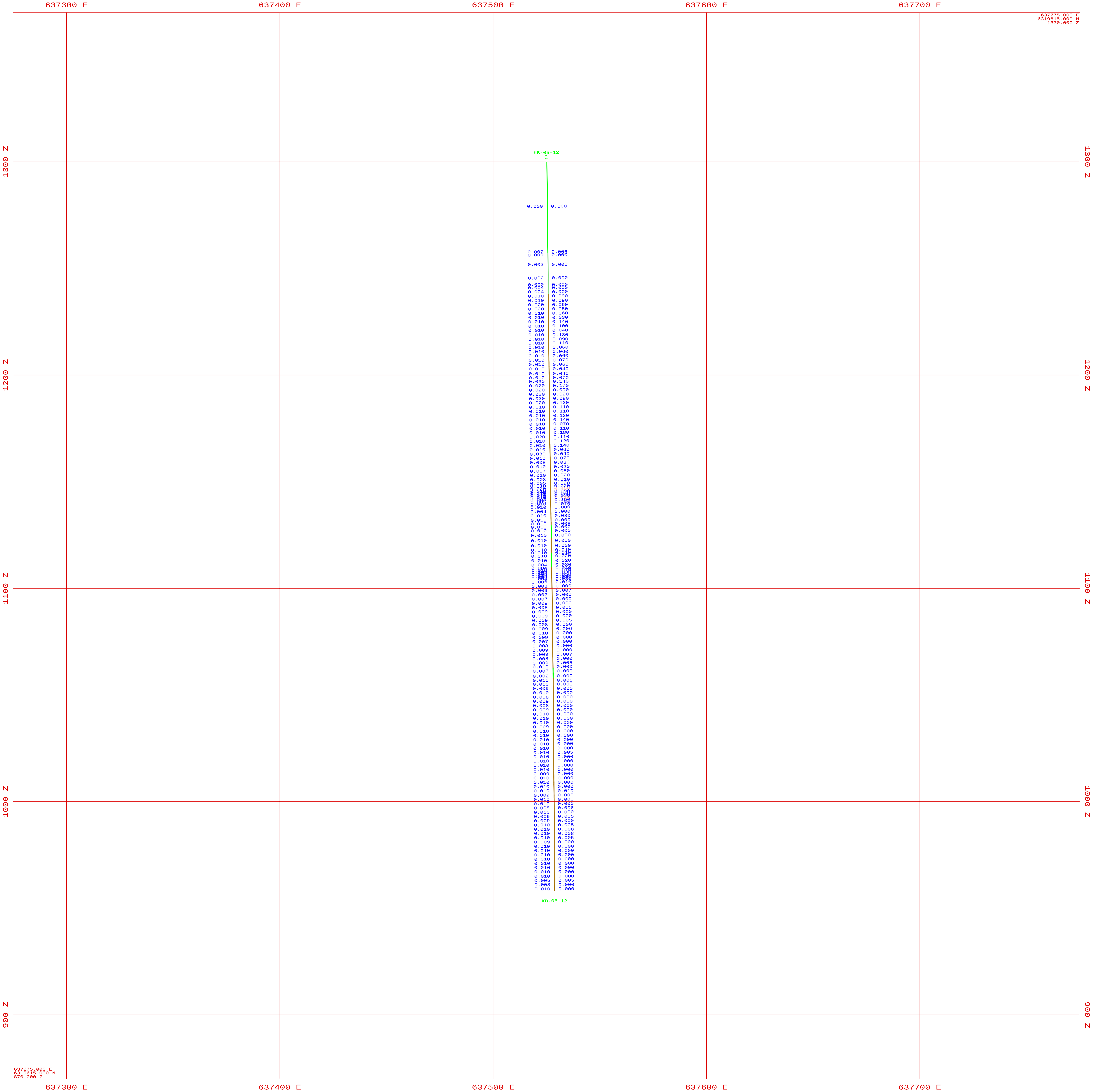
Grid lines
Absolute



Northgate Minerals Corp.

Kemess Property
Bear Project Area
6318424N Viewing North

Scale:1:1000
Date:09-Mar-2006
Project:KMSU
Drawn By:BGK
Checked:
Approved:
Drawing No.
KB-05-11



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Grid lines
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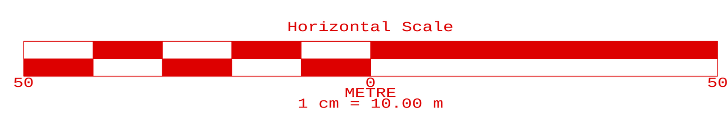

Northgate Minerals Corp.

Kemess Property

Bear Project Area

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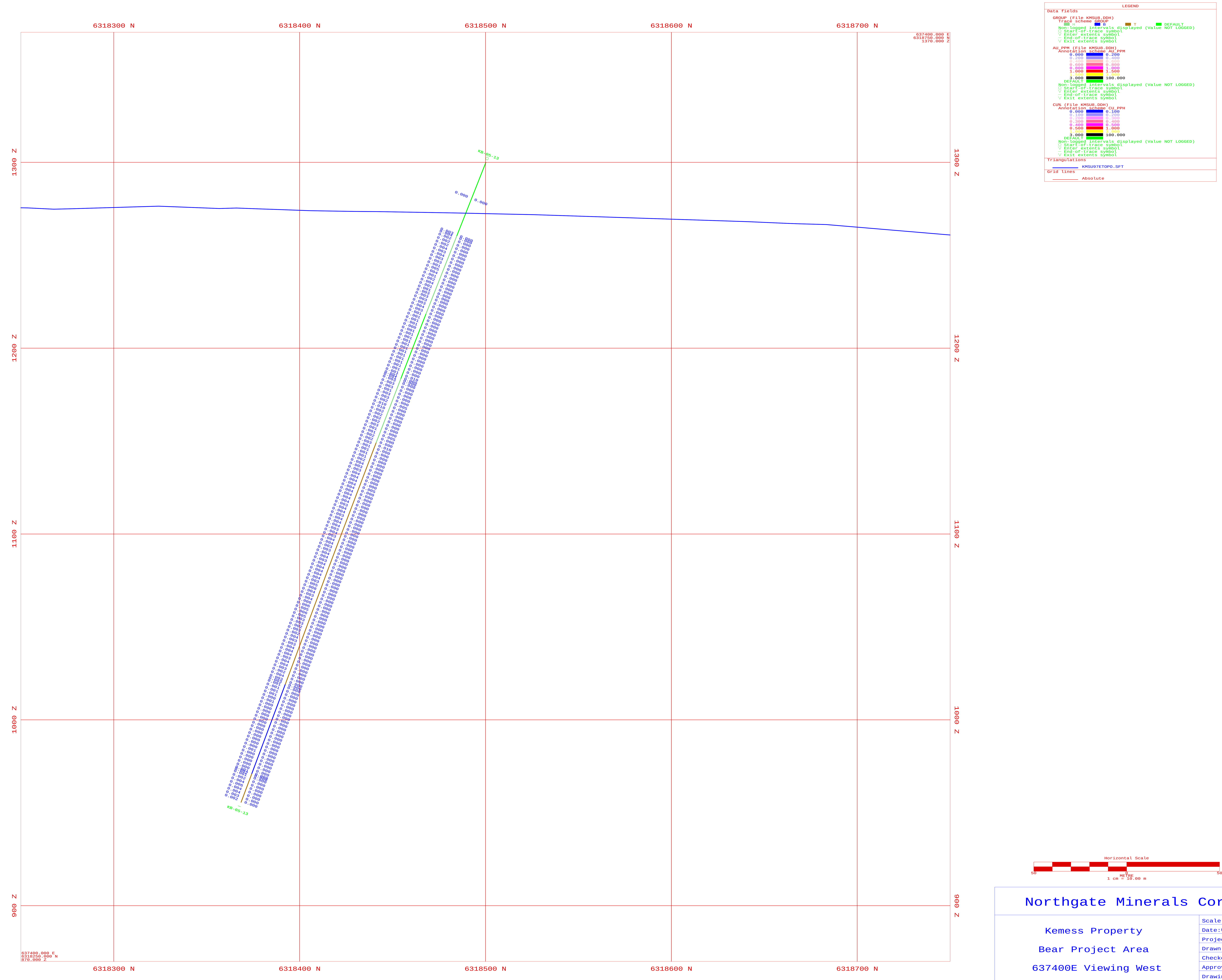
Scale:1:1000
Date:09-Mar-2006
Project:KMSU
Drawn By:BGK
Checked:
Approved:
Drawing No.
KB-05-12



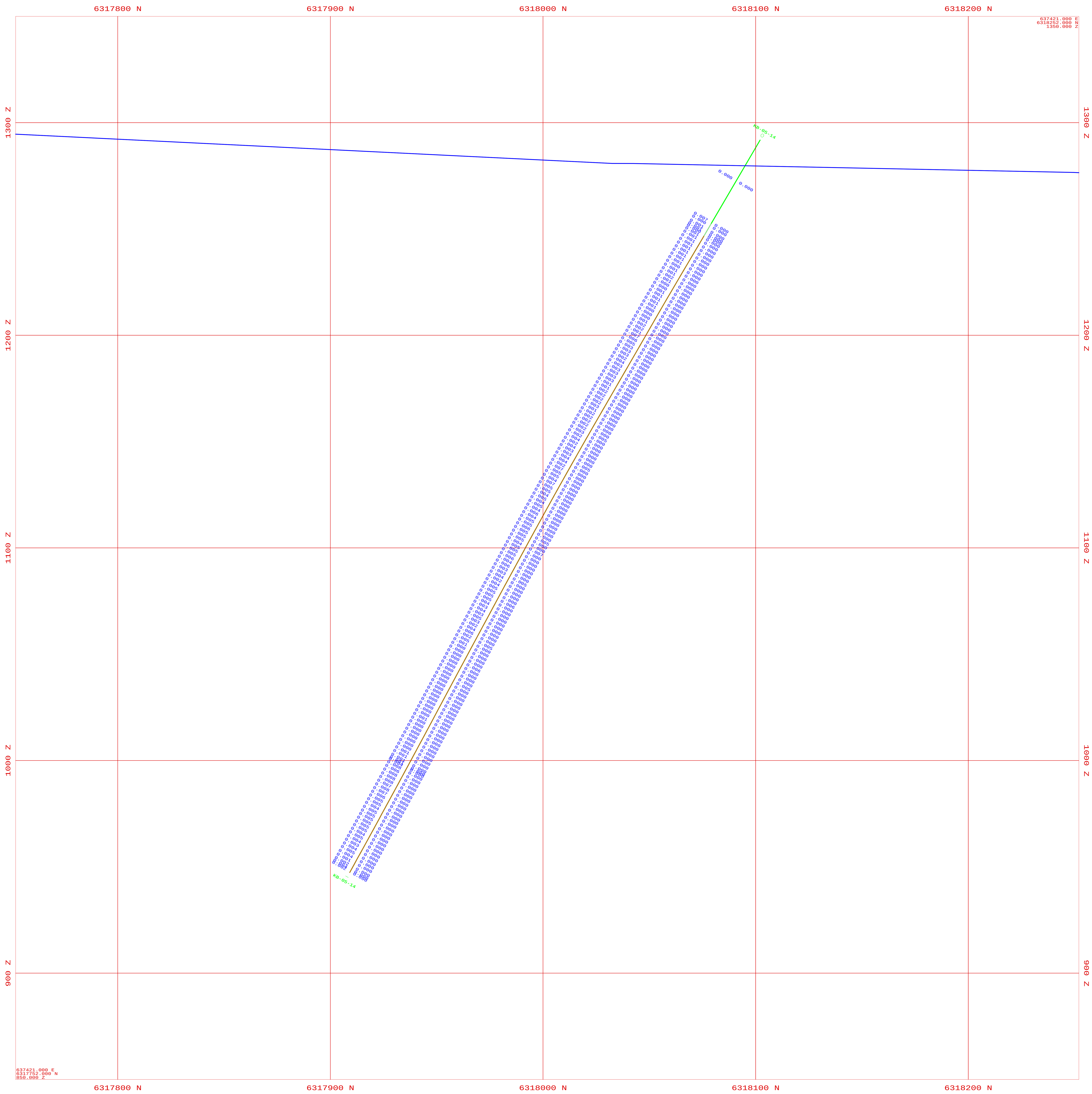
Northgate Minerals Corp.

Kemess Property

Bear Project Area

637400E Viewing West

Scale: 1:1000	
Date: 09-Mar-2006	
Project: KMSU	
Drawn By: BGK	
Checked:	
Approved:	
Drawing No.	
KB-05-13	



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Data fields

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0.500 1.000
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3.000 100.000
DEFAULT
Non-logged intervals displayed (Value NOT LOGGED)
Start-of-trace symbol
Enter extents symbol
End-of-trace symbol
Exit extents symbol

Triangulations
KMSU97ETOPO.SFT

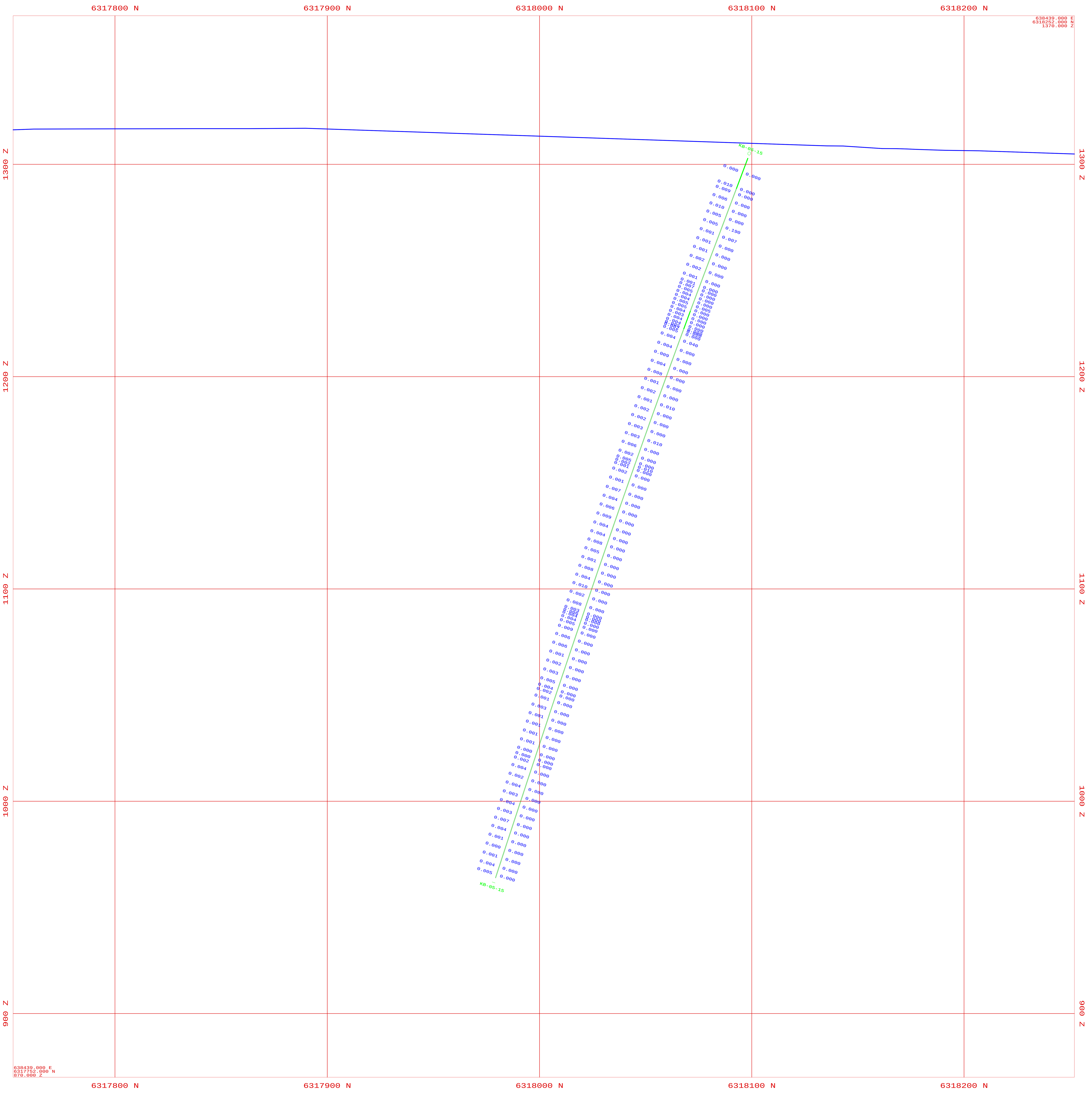
Grid lines
Absolute

Horizontal Scale
50 0 50
METRE
1 cm = 10.00 m

Northgate Minerals Corp.

Kemess Property
Bear Project Area
637421E Viewing West

Scale:1:1000
Date:09-Mar-2006
Project:KMSU
Drawn By:BGK
Checked:
Approved:
Drawing No.
KB-05-14



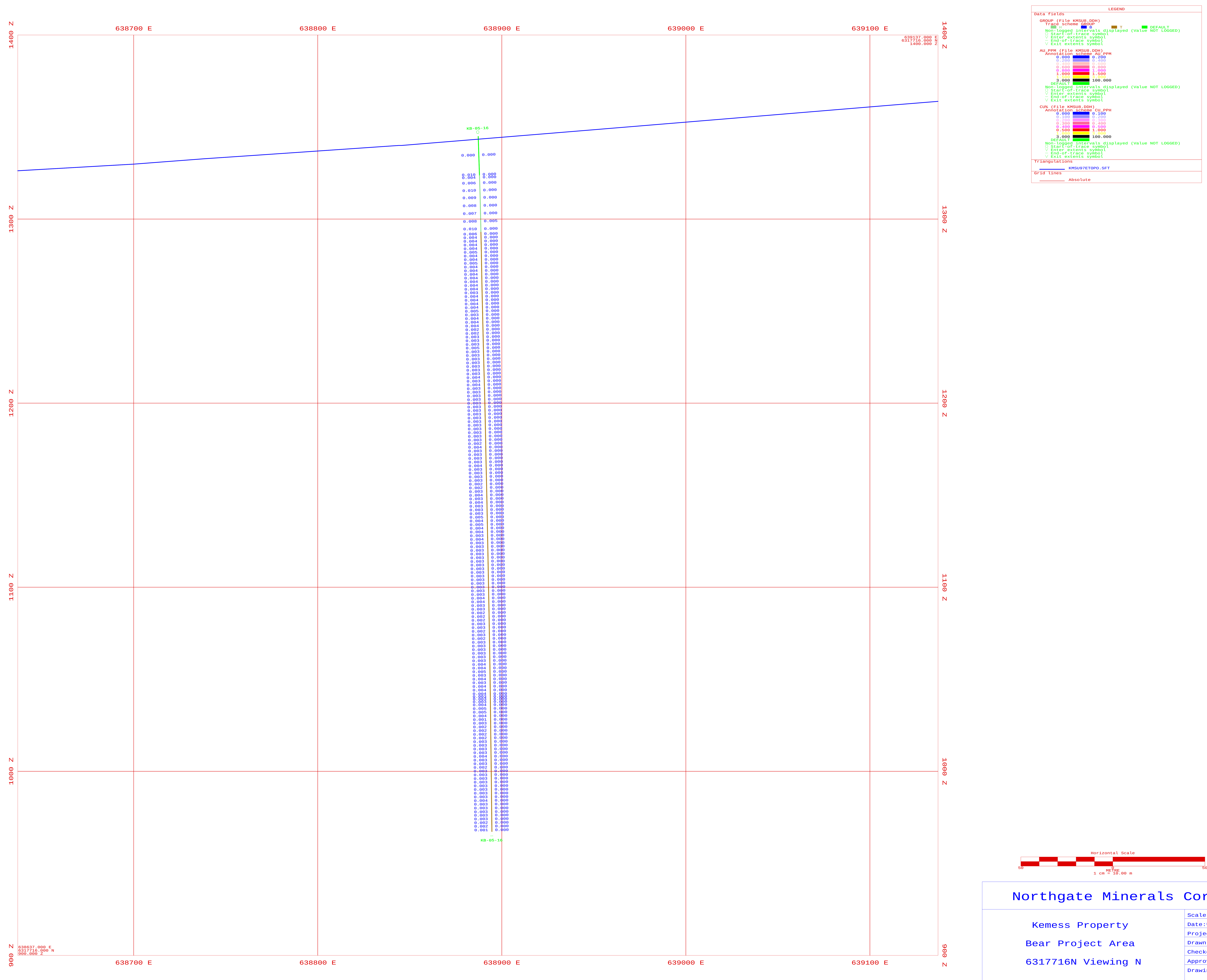
Northgate Minerals Corp.

Kemess Property

Bear Project Area

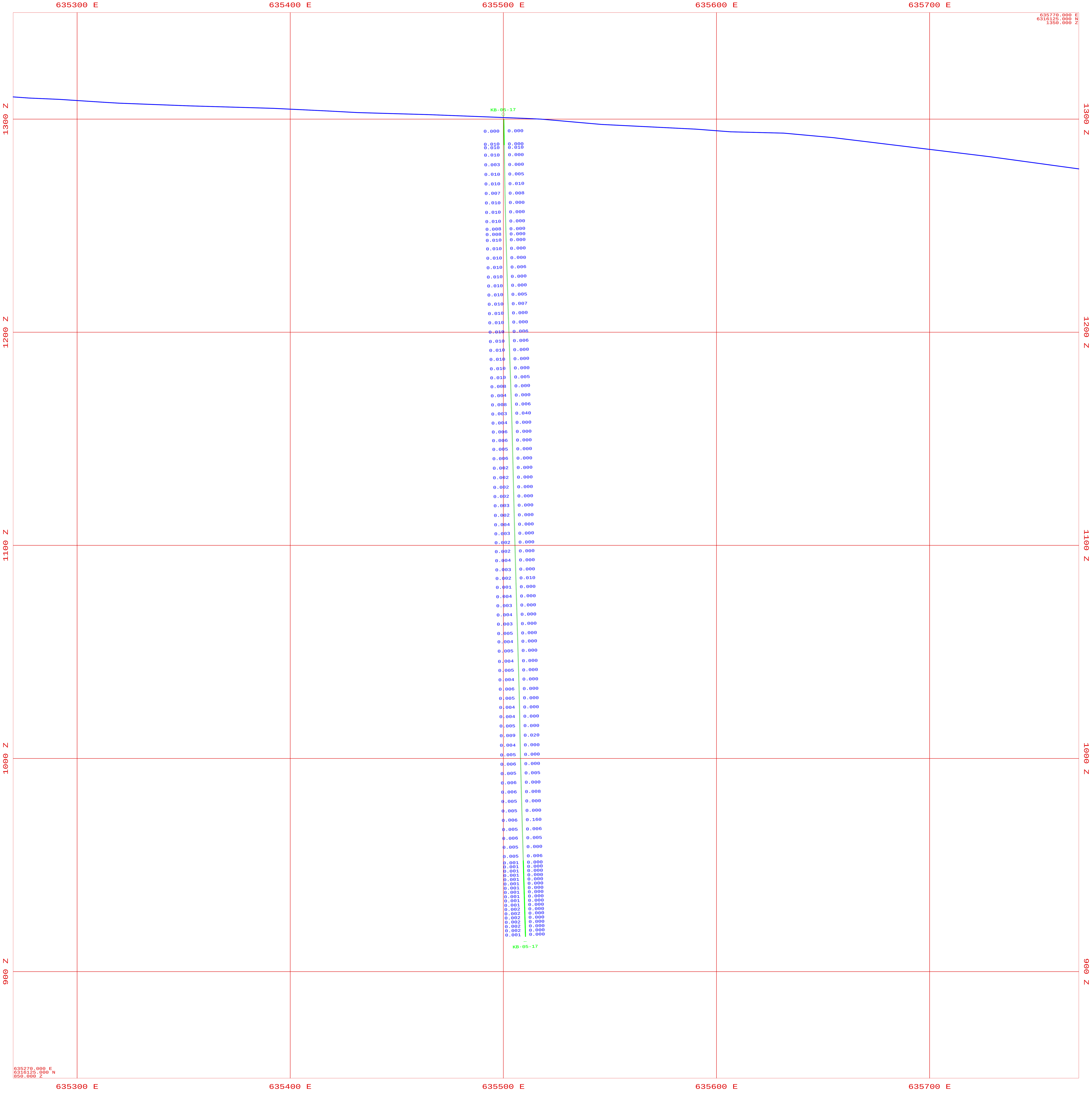
638439E Viewing West

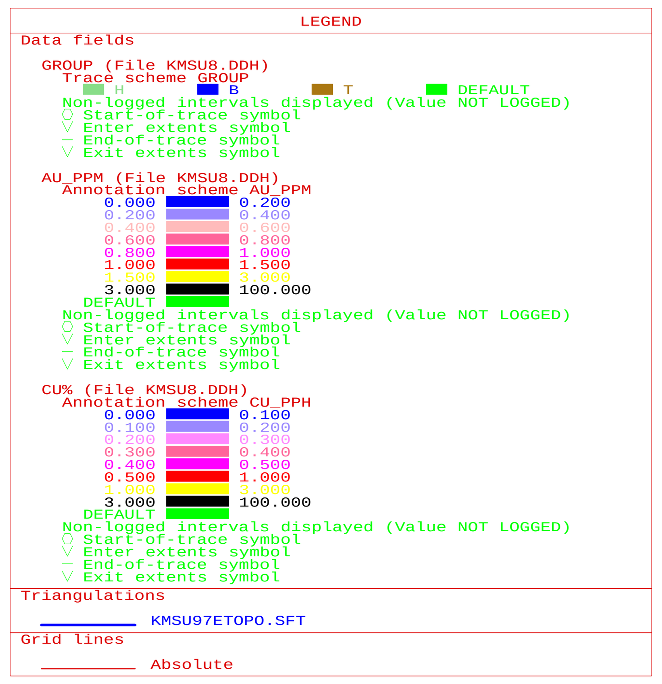
Scale:1:1000
Date:09-Mar-2006
Project:KMSU
Drawn By:BGK
Checked:
Approved:
Drawing No.
KB-05-15

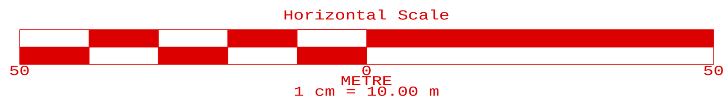


Northgate Minerals Corp.

Kemess Property	Scale:1:1000
Bear Project Area	Date:09-Mar-2006
6317716N Viewing N	Project:KMSU
	Drawn By:BGK
	Checked:
	Approved:
	Drawing No.
	KB-05-16







Northgate Minerals Corp.

Kemess Property

Bear Project Area

6316125N Viewing N

Scale:1:1000
Date:10-Mar-2006
Project:KMSU
Drawn By:BGK
Checked:
Approved:
Drawing No.
KB-05-17